L Number	Hits	Search Text	DB	Time stamp
5	272	LPAAT	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/09/23 16:30

L Number	Hits	Search Text	DB	Time stamp
5	272	LPAAT	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/09/23 16:46
6	701	(514/241).CCLS.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/09/23 16:48

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NEWS	4	Jul 30	BEILSTEIN on STN workshop to be held August 24 in conjunction with the 228th ACS National Meeting
NEWS	5	AUG 02	IFIPAT/IFIUDB/IFICDB reloaded with new search and display fields
NEWS	6	AUG 02	CAplus and CA patent records enhanced with European and Japan Patent Office Classifications
NEWS	7	AUG 02	The Analysis Edition of STN Express with Discover! (Version 7.01 for Windows) now available
NEWS	8	AUG 04	Pricing for the Save Answers for SciFinder Wizard within STN Express with Discover! will change September 1, 2004
NEWS	9	AUG 27	BIOCOMMERCE: Changes and enhancements to content coverage
NEWS	10	AUG 27	BIOTECHABS/BIOTECHDS: Two new display fields added for legal status data from INPADOC
NEWS	11	SEP 01	INPADOC: New family current-awareness alert (SDI) available
NEWS	12	SEP 01	New pricing for the Save Answers for SciFinder Wizard within STN Express with Discover!
NEWS	13	SEP 01	New display format, HITSTR, available in WPIDS/WPINDEX/WPIX
NEWS	14	SEP 14	STN Patent Forum to be held October 13, 2004, in Iselin, NJ

NEWS EXPRESS	JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
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FILE COVERS 1907 - 23 Sep 2004  VOL 141 ISS 13
FILE LAST UPDATED: 22 Sep 2004  (20040922/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> s LPAAT
L1          68 LPAAT

=> s triazine
L2       38128 TRIAZINE

=> s l1 and l2
L3           3 L1 AND L2

=> d l3 1-3 bib hitstr abs
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L3 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:844945 CAPLUS
DN 140:246321
TI Inhibition of lysophosphatidic acid acyltransferase β disrupts proliferative and survival signals in normal cells and induces apoptosis of tumor cells
AU Coon, Michael; Ball, Alexey; Pound, Jeannine; Ap, Sophe; Hollenback, David; White, Thayer; Tulinsky, John; Bonham, Lynn; Morrison, Deborah K.; Finney, Robert; Singer, Jack W.
CS Cell Therapeutics, Seattle, WA, USA
SO Molecular Cancer Therapeutics (2003), 2(10), 1067-1078
CODEN: MCTOCF; ISSN: 1535-7163
PB American Association for Cancer Research
DT Journal
LA English
AB Lysophosphatidic acid acyltransferase β (**LPAAT**-β) is an intrinsic membrane protein that catalyzes the synthesis of phosphatidic acid (PA) from lysoPA. Given that PA is a cofactor in a number of signaling cascades that are constitutively active in tumors, we evaluated the role of PA produced by **LPAAT**-β in Xenopus oocyte meiotic maturation assays and an isoform-specific inhibitor of **LPAAT**-β in mammalian cell assays. We found that ectopic overexpression of **LPAAT**-β cooperates in activation of the Ras/Raf/Erk pathway in Xenopus oocytes and that inhibition of **LPAAT**-β inhibits signaling in both the Ras/Raf/Erk and PI3K/Akt pathways. When **LPAAT**-β activity is suppressed by CT32228 (N-(4-bromo-phenyl)-6-(5-chloro-2-methyl-phenyl)-[1,3,5]**triazine**-2,4-diamine), an isoform-specific noncompetitive inhibitor, tumor cells undergo mitotic catastrophe while most normal cells simply arrest or become quiescent. The data presented here suggest that PA produced by **LPAAT**-β plays an important role in signaling pathways critical to tumor cell survival.
RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:356266 CAPLUS
DN 138:354007
TI Preparation of 6-phenyl-N-phenyl-[1,3,5]**triazine**-2,4-diamine derivatives and related compounds with lysophosphatidic acid acyltransferase β (**LPAAT**-β) inhibitory activity for use in the treatment of cancer
IN Bhatt, Rama; Gong, Baoqing; Hong, Feng; Jenkins, Scott A.; Klein, J. Peter; Kumar, Anil M.; Tulinsky, John
PA Cell Therapeutics, Inc., USA
SO PCT Int. Appl., 96 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003037346	A1	20030508	WO 2002-US35256	20021030
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
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OS MARPAT 138:354007
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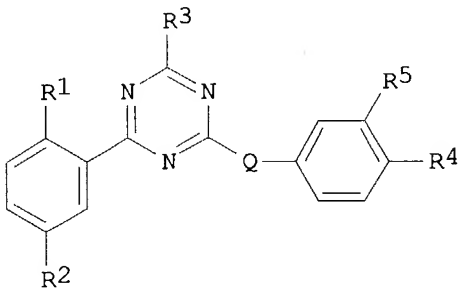

I

AB The invention relates to 6-phenyl-N-phenyl-[1,3,5]**triazine**-2,4-diamines (shown as I; variables defined below; e.g. 6-(5-chloro-2-methoxyphenyl)-N-(4-chlorophenyl)-[1,3,5]**triazine**-2,4-diamine and prodrug (S)-pyrrolidine-2-carboxylic acid 4-[[4-amino-6-(5-chloro-2-methylphenyl)-[1,3,5]triazin-2-yl]amino]benzyl ester) and uses thereof, including inhibition of lysophosphatidic acid acyltransferase β (**LPAAT**-β) activity and/or proliferation of cells such as tumor cells, where R1-R5 are H or nonhydrogen substituents, and Q is a heteroatom or heteroatom attached to ≥1 methylene groups. For I: Q is NH, N(CH2)n, (CH2)nN, O, O(CH2)n,

(CH2)nO, S, S(CH2)n or (CH2)nS, where n is 1-10; R1 is H, OH, alkyl, alkoxy, Cl, F, Br, CR3 where R3 is Cl3, F3 or Br3, NH2, NHR or NRR' where R and R' independently are alkyl; R2 is H, OH, alkyl, alkoxy, Cl, F, Br or CR3 where R3 is Cl3, F3 or Br3. R3 is H, alkyl, alkoxy, CCl3, CN, NH2, or SR where R and R' independently are alkyl; R4 and R5 = H, OH, alkyl, alkenyl, alkynyl, alkoxy, (CH2)nOR where R is H or alkyl and n is 1-10, Cl, F, Br, CR3 where R3 is Cl3, F3 or Br3, acyl, heterocycle, N+(:O)O, CN, N3, SH, SR where R is alkyl, NH2, NHR or NRR' where R and R' independently are alkyl or are joined together to form a ring with the N, or R4 and R5 are taken together with the benzene ring to form a heterocycle or R4 and R5 = alkyl or alkenyl and joined together to form a ring with the two C atoms of the benzene ring to which R4 and R5 are attached; addnl. details including provisos are given in the claims. IC50 values are tabulated for inhibition of **LPAAT**-β by 90 examples of I; e.g. 6-(5-chloro-2-methoxyphenyl)-N-(4-chlorophenyl)-[1,3,5]**triazine**-2,4-diamine exhibits IC50 = 0.057 μM. Although the methods of preparation are not claimed, 90 example prepns. are included.

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:353441 CAPLUS
DN 136:369744
TI Preparation of triazines as **LPAAT**-β inhibitors
IN Bonham, Lynn; Leung, David W.; White, Thayer H.; Klein, J. Peter; Finney, Robert E.; Hollenback, David M.; Shaffer, Scott A.; Tang, Norina M.
PA USA
SO PCT Int. Appl., 75 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002036578	A2	20020510	WO 2001-US42837	20011030
	WO 2002036578	A3	20030403		
	WO 2002036578	C2	20040422		
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	US 2002103195	A1	20020801	US 2001-984888	20011031
	US 2003100557	A1	20030529	US 2002-236084	20020906
	US 2004162288	A1	20040819	US 2003-712900	20031113
PRAI	US 2000-244195P	P	20001031		
	WO 2001-US42837	W	20011030		
	US 2001-984888	A1	20011031		
	US 2002-236084	B3	20020906		

OS MARPAT 136:369744
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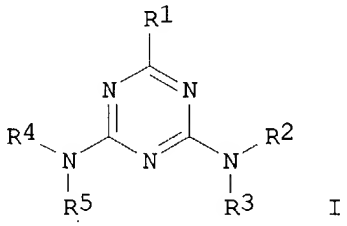

I

AB The title compds. [I; R1 = halo, OH, alkylmercapto, SH, alkoxy, aryloxy, substituted NH2; R2-R5 = H, (un)substituted alkyl, alkenyl, alkynyl, aryl; or R2 and R3 or R4 and R5, together with the N atom to which they are attached, form a piperidine, piperazine or a morpholine ring], useful in inhibiting lysophosphatidic acid acyltransferase β (**LPAAT** -β) activity, were prepared Thus, reacting (4-chlorophenyl)(4,6-dichloro-[1,3,5]triazin-2-yl)amine (preparation given) with p-anisidine afforded 62% I [R1 = Cl; R2, R4 = H; R3 = 4-ClC6H4; R5 = 4-MeOC6H4] which showed IC50 of 750 nM in **LPAAT**.beta. colorimetric assay. The

invention further relates to methods of treating cancer using triazines I. The invention also relates to methods for screening for **LPAAT** -β activity.

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FULL ESTIMATED COST                                   12.17       12.38

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
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NEWS 10	AUG 27	BIOTECHABS/BIOTECHDS: Two new display fields added for legal status data from INPADOC
NEWS 11	SEP 01	INPADOC: New family current-awareness alert (SDI) available
NEWS 12	SEP 01	New pricing for the Save Answers for SciFinder Wizard within STN Express with Discover!
NEWS 13	SEP 01	New display format, HITSTR, available in WPIDS/WPINDEX/WPIX
NEWS 14	SEP 14	STN Patent Forum to be held October 13, 2004, in Iselin, NJ

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FILE COVERS 1907 - 23 Sep 2004  VOL 141 ISS 13
FILE LAST UPDATED: 22 Sep 2004  (20040922/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> s LPAAT
L1          68 LPAAT

=> s triazine
L2       38128 TRIAZINE

=> s l1 and l2
L3           3 L1 AND L2

=> d l3 1-3 bib hitstr abs
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L3 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:844945 CAPLUS
DN 140:246321
TI Inhibition of lysophosphatidic acid acyltransferase β disrupts proliferative and survival signals in normal cells and induces apoptosis of tumor cells
AU Coon, Michael; Ball, Alexey; Pound, Jeannine; Ap, Sophe; Hollenback, David; White, Thayer; Tulinsky, John; Bonham, Lynn; Morrison, Deborah K.; Finney, Robert; Singer, Jack W.
CS Cell Therapeutics, Seattle, WA, USA
SO Molecular Cancer Therapeutics (2003), 2(10), 1067-1078
CODEN: MCTOCF; ISSN: 1535-7163
PB American Association for Cancer Research
DT Journal
LA English
AB Lysophosphatidic acid acyltransferase β (**LPAAT**-β) is an intrinsic membrane protein that catalyzes the synthesis of phosphatidic acid (PA) from lysoPA. Given that PA is a cofactor in a number of signaling cascades that are constitutively active in tumors, we evaluated the role of PA produced by **LPAAT**-β in Xenopus oocyte meiotic maturation assays and an isoform-specific inhibitor of **LPAAT** -β in mammalian cell assays. We found that ectopic overexpression of **LPAAT**-β cooperates in activation of the Ras/Raf/Erk pathway in Xenopus oocytes and that inhibition of **LPAAT**-β inhibits signaling in both the Ras/Raf/Erk and PI3K/Akt pathways. When **LPAAT**-β activity is suppressed by CT32228 (N-(4-bromo-phenyl)-6-(5-chloro-2-methyl-phenyl)-[1,3,5]**triazine** -2,4-diamine), an isoform-specific noncompetitive inhibitor, tumor cells undergo mitotic catastrophe while most normal cells simply arrest or become quiescent. The data presented here suggest that PA produced by **LPAAT**-β plays an important role in signaling pathways critical to tumor cell survival.
RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:356266 CAPLUS
DN 138:354007
TI Preparation of 6-phenyl-N-phenyl-[1,3,5]**triazine**-2,4-diamine derivatives and related compounds with lysophosphatidic acid acyltransferase β (**LPAAT**-β) inhibitory activity for use in the treatment of cancer
IN Bhatt, Rama; Gong, Baoqing; Hong, Feng; Jenkins, Scott A.; Klein, J. Peter; Kumar, Anil M.; Tulinsky, John
PA Cell Therapeutics, Inc., USA
SO PCT Int. Appl., 96 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003037346	A1	20030508	WO 2002-US35256	20021030
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OS MARPAT 138:354007
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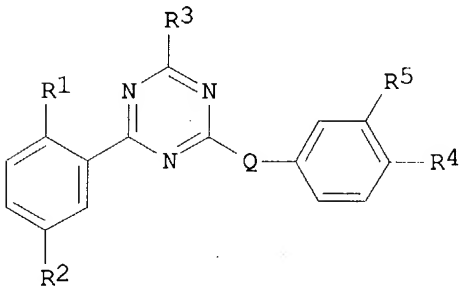

I

AB The invention relates to 6-phenyl-N-phenyl-[1,3,5]**triazine**-2,4-diamines (shown as I; variables defined below; e.g. 6-(5-chloro-2-methoxyphenyl)-N-(4-chlorophenyl)-[1,3,5]**triazine**-2,4-diamine and prodrug (S)-pyrrolidine-2-carboxylic acid 4-[[4-amino-6-(5-chloro-2-methylphenyl)-[1,3,5]triazin-2-yl]amino]benzyl ester) and uses thereof, including inhibition of lysophosphatidic acid acyltransferase β (**LPAAT**-β) activity and/or proliferation of cells such as tumor cells, where R1-R5 are H or nonhydrogen substituents, and Q is a heteroatom or heteroatom attached to ≥1 methylene groups. For I: Q is NH, N(CH2)n, (CH2)nN, O, O(CH2)n,

(CH2)nO, S, S(CH2)n or (CH2)nS, where n is 1-10; R1 is H, OH, alkyl, alkoxy, Cl, F, Br, CR3 where R3 is Cl3, F3 or Br3, NH2, NHR or NRR' where R and R' independently are alkyl; R2 is H, OH, alkyl, alkoxy, Cl, F, Br or CR3 where R3 is Cl3, F3 or Br3. R3 is H, alkyl, alkoxy, CCl3, CN, NH2, or SR where R and R' independently are alkyl; R4 and R5 = H, OH, alkyl, alkenyl, alkynyl, alkoxy, (CH2)nOR where R is H or alkyl and n is 1-10, Cl, F, Br, CR3 where R3 is Cl3, F3 or Br3, acyl, heterocycle, N+(:O)O, CN, N3, SH, SR where R is alkyl, NH2, NHR or NRR' where R and R' independently are alkyl or are joined together to form a ring with the N, or R4 and R5 are taken together with the benzene ring to form a heterocycle or R4 and R5 = alkyl or alkenyl and joined together to form a ring with the two C atoms of the benzene ring to which R4 and R5 are attached; addnl. details including provisos are given in the claims. IC50 values are tabulated for inhibition of **LPAAT**-β by 90 examples of I; e.g. 6-(5-chloro-2-methoxyphenyl)-N-(4-chlorophenyl)-[1,3,5]**triazine**-2,4-diamine exhibits IC50 = 0.057 μM. Although the methods of preparation are not claimed, 90 example prepns. are included.

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:353441 CAPLUS
DN 136:369744
TI Preparation of triazines as **LPAAT**-β inhibitors
IN Bonham, Lynn; Leung, David W.; White, Thayer H.; Klein, J. Peter; Finney, Robert E.; Hollenback, David M.; Shaffer, Scott A.; Tang, Norina M.
PA USA
SO PCT Int. Appl., 75 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002036578	A2	20020510	WO 2001-US42837	20011030
	WO 2002036578	A3	20030403		
	WO 2002036578	C2	20040422		
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	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
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OS MARPAT 136:369744
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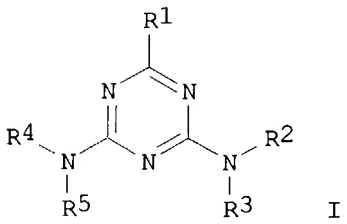

I

AB The title compds. [I; R1 = halo, OH, alkylmercapto, SH, alkoxy, aryloxy, substituted NH2; R2-R5 = H, (un)substituted alkyl, alkenyl, alkynyl, aryl; or R2 and R3 or R4 and R5, together with the N atom to which they are attached, form a piperidine, piperazine or a morpholine ring], useful in inhibiting lysophosphatidic acid acyltransferase β (**LPAAT** -β) activity, were prepared Thus, reacting (4-chlorophenyl)(4,6-dichloro-[1,3,5]triazin-2-yl)amine (preparation given) with p-anisidine afforded 62% I [R1 = Cl; R2, R4 = H; R3 = 4-ClC6H4; R5 = 4-MeOC6H4] which showed IC50 of 750 nM in **LPAAT**.beta. colorimetric assay. The

invention further relates to methods of treating cancer using triazines I. The invention also relates to methods for screening for **LPAAT** -β activity.

10/712,900

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=> s LAAPT
L1 0 LAAPT

=> s LPAAT
L2 68 LPAAT

=> d 1-68 bib abs

L2 ANSWER 1 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:526675 CAPLUS
TI Loss of plastidic lysophosphatidic acid acyltransferase causes embryo-lethality in Arabidopsis
AU Yu, Bin; Wakao, Setsuko; Fan, Jilian; Benning, Christoph
CS Department of Biochemistry and Molecular Biology, Michigan State University, East Lansing, MI, 48824-1319, USA
SO Plant and Cell Physiology (2004), 45(5), 503-510
CODEN: PCPHA5; ISSN: 0032-0781
PB Japanese Society of Plant Physiologists
DT Journal
LA English
AB Phosphatidic acid is a key intermediate for chloroplast membrane lipid biosynthesis. De novo phosphatidic acid biosynthesis in plants occurs in two steps: first the acylation of the sn-1 position of glycerol-3-phosphate giving rise to lysophosphatidic acid; second, the acylation of the sn-2 position of lysophosphatidic acid to form phosphatidic acid. The second step is catalyzed by a lysophosphatidic acid acyltransferase (**LPAAT**). Here we describe the identification of the ATS2 gene of Arabidopsis encoding the plastidic isoform of this enzyme. Introduction of the ATS2 cDNA into E. coli JC 201, which is temperature-sensitive and carries a mutation in its **LPAAT** gene plsC, restored this mutant to nearly wild type growth at high temperature A green-fluorescent protein fusion with ATS2 localized to the chloroplast. Disruption of the ATS2 gene of Arabidopsis by T-DNA insertion caused embryo lethality. The development of the embryos was arrested at the globular stage concomitant with a transient increase in ATS2 gene expression. Apparently, plastidic **LPAAT** is essential for embryo development in Arabidopsis during the transition from the globular to the heart stage when chloroplasts begin to form.
RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:525494 CAPLUS
DN 141:52353
TI Gene expression profiles for detecting soft tissue sarcomas and compositions and methods of screening for soft tissue sarcoma modulators
IN Aziz, Natasha; Ginsburg, Wendy M.; Zlotnik, Albert
PA Protein Design Labs, Inc., USA
SO PCT Int. Appl., 210 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 4

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004048938	A2	20040610	WO 2003-XC38193	20031126

W: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
RW: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

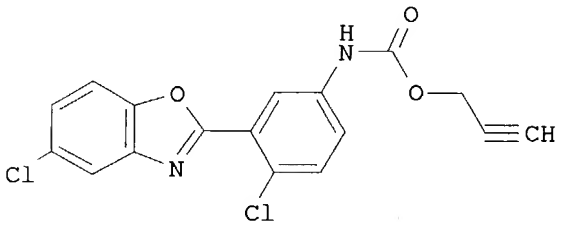
PRAI US 2002-429739P P 20021126

AB Described herein are methods and compns. that can be used for diagnosis and treatment of soft tissue sarcoma cancer phenotypes and soft tissue sarcoma cancer-associated diseases. Also described herein are methods that can be used to identify modulators of soft tissue sarcoma cancer. The Eos/Affymetrix Hu03 Genechip microarray was used to identify up-regulated genes in various human soft tissue sarcomas: 523 genes up-regulated in chondrosarcoma, 763 genes in dermatofibrosarcoma, 625 genes in fibrosarcoma, 906 genes in liposarcoma, 595 genes in synovial sarcoma, 977 genes in rhabdomyosarcoma, and 1078 genes in malignant fibrous histiocytoma. [This abstract record is one of four records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.].

L2 ANSWER 3 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:303311 CAPLUS
DN 141:64387
TI Synthesis, SAR, and antitumor properties of diamino-C,N-diarylpyrimidine positional isomers: inhibitors of lysophosphatidic acid acyltransferase-β
AU Gong, Baoqing; Hong, Feng; Kohm, Cory; Jenkins, Scott; Tulinsky, John; Bhatt, Rama; de Vries, Peter; Singer, Jack W.; Klein, Peter
CS Cell Therapeutics, Inc., Seattle, WA, 98119, USA
SO Bioorganic & Medicinal Chemistry Letters (2004), 14(9), 2303-2308
CODEN: BMCLE8; ISSN: 0960-894X
PB Elsevier Science B.V.
DT Journal
LA English
AB 2,4-Diamino-N4,6-diarylpyrimidines were identified as potent, isoform specific inhibitors of lysophosphatidic acid acyltransferase-β (**LPAAT**-β). Active inhibitors also blocked proliferation of tumor cell lines in vitro. The effect of one of the synthesized compds. (2j) in an in vivo tumor model was investigated.
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 4 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:260071 CAPLUS
DN 140:403454
TI Plastid lysophosphatidyl acyltransferase is essential for embryo development in Arabidopsis
AU Kim, Hyun Uk; Huang, Anthony H. C.
CS Center for Plant Cell Biology, Department of Botany and Plant Sciences, University of California, Riverside, CA, 92521, USA
SO Plant Physiology (2004), 134(3), 1206-1216
CODEN: PLPHAY; ISSN: 0032-0889
PB American Society of Plant Biologists
DT Journal
LA English
AB Lysophosphatidyl acyltransferase (**LPAAT**) is a pivotal enzyme controlling the metabolic flow of lysophosphatidic acid into different phosphatidic acids in diverse tissues. A search of the Arabidopsis genome database revealed five genes that could encode **LPAAT**-like proteins. We identified one of them, LPAAT1, to be the lone gene that encodes the plastid **LPAAT**. LPAAT1 could functionally complement a bacterial mutant that has defective **LPAAT**. Bacteria transformed with LPAAT1 produced **LPAAT** that had in vitro enzyme activity much higher on 16:0-CoA than on 18:1-CoA in the presence of 18:1-lysophosphatidic acid. LPAAT1 transcript was present in diverse organs, with the highest level in green leaves. A mutant having a T-DNA inserted into LPAAT1 was identified. The heterozygous mutant has no overt phenotype, and its leaf acyl composition is similar to that of the wild type. Selfing of a heterozygous mutant produced normal-sized and shrunken seeds in the Mendelian ratio of 3:1, and the shrunken seeds could not germinate. The shrunken seeds apparently were homozygous of the T-DNA-inserted LPAAT1, and development of the embryo within them was arrested at the heart-torpedo stage. This embryo lethality could be rescued by transformation of the heterozygous mutant with a 35S:LPAAT1 construct. The current findings of embryo death in the homozygous knockout mutant of the plastid **LPAAT** contrasts with earlier findings of a normal phenotype in the homozygous mutant deficient of the plastid glycerol-3-phosphate acyltransferase; both mutations block the synthesis of plastid phosphatidic acid. Reasons for the discrepancy between the contrasting phenotypes of the two mutants are discussed.
RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 5 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:189156 CAPLUS
DN 140:423621
TI Synthesis and SAR of 2-arylbenzoxazoles, benzothiazoles and benzimidazoles as inhibitors of lysophosphatidic acid acyltransferase-β
AU Gong, Baoqing; Hong, Feng; Kohm, Cory; Bonham, Lynn; Klein, Peter
CS Cell Therapeutics, Inc., Seattle, WA, 98119, USA
SO Bioorganic & Medicinal Chemistry Letters (2004), 14(6), 1455-1459
CODEN: BMCLE8; ISSN: 0960-894X
PB Elsevier Science B.V.
DT Journal
LA English
GI



I

AB 2-Arylbenzoxazoles, e.g., I, benzothiazoles and benzimidazoles were identified as new classes of potent, isoform specific inhibitors of lysophosphatidic acid acyltransferase-β (**LPAAT**-β). Effects of selected inhibitors on proliferation of tumor cells in vitro were investigated.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 6 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:85984 CAPLUS
DN 140:194432
TI Human prostate cancer marker genes associated with various metastatic stages identified by gene profiling, and related compositions, kits, and methods for diagnosis, prognosis and therapy
IN Schlegel, Robert; Endege, Wilson O.
PA Millennium Pharmaceuticals, Inc., USA
SO U.S. Pat. Appl. Publ., 131 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004009481	A1	20040115	US 2002-166883	20020611
	US 2004009481	A1	20040115	US 2002-166883	20020611
PRAI	US 2001-297285P	P	20010611		
	US 2002-166883	A	20020611		

AB The invention relates to compns., kits, and methods for diagnosing, staging, prognosing, monitoring and treating human prostate cancers. A variety of marker genes are provided, wherein changes in the levels of expression of one or more of the marker genes is correlated with the presence of prostate cancer. In particular, three sets of the marker genes set, corresponding to 11617 GenBank Accession Nos. (only 2168 new submissions) and 15 SEQ IDs, are identified by transcription profiling using RNA derived from clin. samples, that were expressed at least 2-fold or greater than the normal controls. Using TNM staging approach, these markers are divided to three groups, ones can be used to determine whether prostate cancer has metastasized, or is likely to metastasize, to the liver (M stage); ones can be used to determine whether prostate cancer has metastasized, or is likely to metastasize, to the bone (M stage); and ones can be used to determine whether prostate cancer has metastasized, or is likely to metastasize, to the lymph nodes (N stage and/or M stage). The invention also relates to a kit for assessing the specific type of metastatic prostate cancer, e.g., cancer that has metastasized to the liver, bone or lymph nodes. [This abstract record is one of three records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.].

L2 ANSWER 7 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:982792 CAPLUS
DN 140:158300
TI Analysis of the gene-dense major histocompatibility complex class III region and its comparison to mouse
AU Xie, Tao; Rowen, Lee; Aguado, Begona; Ahearn, Mary Ellen; Madan, Anup; Qin, Shizhen; Campbell, R. Duncan; Hood, Leroy
CS Institute for Systems Biology, Seattle, WA, 98103, USA
SO Genome Research (2003), 13(12), 2621-2636
CODEN: GEREFS; ISSN: 1088-9051
PB Cold Spring Harbor Laboratory Press
DT Journal
LA English
AB In mammals, the Major Histocompatibility Complex class I and II gene clusters are separated by an .apprx.700-kb stretch of sequence called the MHC class III region, which has been associated with susceptibility to numerous diseases. To facilitate understanding of this medically important and architecturally interesting portion of the genome, we have sequenced and analyzed both the human and mouse class III regions. The cross-species comparison has facilitated the identification of 60 genes in human and 61 in mouse, including a potential RNA gene for which the introns are more conserved across species than the exons. Delineation of global organization, gene structure, alternative splice forms, protein similarities, and potential cis-regulatory elements leads to several conclusions:. The human MHC class III region is the most gene-dense region of the human genome: >14% of the sequence is coding, .apprx.72% of the region is transcribed, and there is an average of 8.5 genes per 100 kb. Gene sizes, number of exons, and intergenic distances are for the most part similar in both species, implying that interspersed repeats have had little impact in disrupting the tight organization of this densely packed set of genes. The region contains a heterogeneous mixture of genes, only a few of which have a clearly defined and proven function. Although many of the genes are of ancient origin, some appear to exist only in mammals and fish, implying they might be specific to vertebrates. Conserved noncoding sequences are found primarily in or near the 5'-UTR or the first intron of genes, and seldom in the intergenic regions. Many of these conserved blocks are likely to be cis-regulatory elements.
RE.CNT 67 THERE ARE 67 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 8 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:982377 CAPLUS
DN 140:210141
TI Antitumor Activity of Lysophosphatidic Acid Acyltransferase-β Inhibitors, a Novel Class of Agents, in Multiple Myeloma
AU Hideshima, Teru; Chauhan, Dharminder; Hayashi, Toshiaki; Podar, Klaus; Akiyama, Masaharu; Mitsiades, Constantine; Mitsiades, Nicholas; Gong, Baoqing; Bonham, Lynn; de Vries, Peter; Munshi, Nikhil; Richardson, Paul G.; Singer, Jack W.; Anderson, Kenneth C.
CS Department of Medical Oncology, Jerome Lipper Multiple Myeloma Center, Seattle, WA, USA
SO Cancer Research (2003), 63(23), 8428-8436
CODEN: CNREA8; ISSN: 0008-5472
PB American Association for Cancer Research
DT Journal
LA English
AB In this study, we examined the effects of isoform-specific functional inhibitors of lysophosphatidic acid acyltransferase (**LPAAT**), which converts lysophosphatidic acid to phosphatidic acid, on multiple myeloma (MM) cell growth and survival. The **LPAAT**-β inhibitors CT-32176, CT-32458, and CT-32615 induced >95% growth inhibition ($P < 0.01$) in MM.1S, U266, and RPMI8226 MM cell lines, as well as MM cells from patients (IC50, 50-200 nM). We further characterized this **LPAAT**-β inhibitory effect using CT-32615, the most potent inhibitor of MM cell growth. CT-32615 triggered apoptosis in MM cells via caspase-8, caspase-3, caspase-7, and poly (ADP-ribose) polymerase cleavage. Neither interleukin 6 nor insulin-like growth factor I inhibited CT-32615-induced apoptosis. Dexamethasone and immunomodulatory derivs. of thalidomide (IMiDs), but not proteasome inhibitor PS-341, augmented MM cell apoptosis triggered by **LPAAT**-β inhibitors. CT-32615-induced apoptosis was associated with phosphorylation of p53 and c-Jun NH2-terminal kinase (JNK); conversely, JNK inhibitor SP600125 and dominant-neg. JNK inhibited CT-32615-induced apoptosis. Importantly, CT-32615 inhibited tumor necrosis factor-α-triggered nuclear factor-κB activation but did not affect either tumor necrosis factor-α-induced p38 mitogen-activated protein kinase phosphorylation or interleukin 6-triggered signal transducers and activators of transcription 3 phosphorylation. Finally, although binding of MM cells to bone marrow stromal cells augments MM cell growth and protects against dexamethasone-induced apoptosis, CT-32615 induced apoptosis even of adherent MM cells. Our data therefore demonstrate for the first time that inhibiting **LPAAT**-β induces cytotoxicity in MM cells in the bone marrow milieu, providing the framework for clin. trials of these novel agents in MM.
RE.CNT 70 THERE ARE 70 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 9 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:913280 CAPLUS
DN 139:379453
TI Genes showing altered patterns of expression in multiple sclerosis and their diagnostic and therapeutic uses
IN Dangond, Fernando; Hwang, Daehee
PA Brigham and Women's Hospital, Inc., USA
SO PCT Int. Appl., 148 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003095618	A2	20031120	WO 2003-US14462	20030507
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2004018522	A1	20040129	US 2003-430762	20030506
PRAI	US 2002-379284P	P	20020509		
	US 2003-430762	A1	20030506		

AB The present invention identifies a number of gene markers whose expression is altered in multiple sclerosis (MS). These markers can be used to diagnose or predict MS in subjects, and can be used in the monitoring of therapies. In addition, these genes identify therapeutic targets, the modification of which may prevent MS development or progression. Genes were identified by determination of expression profiling. A large number of genes showing altered patterns of expression were identified, with the most discriminatory genes being those for: phosphatidylinositol transfer protein, inducible nitric oxide synthase, CIC-1 (CLCN1) muscle chloride channel protein, placental bikunin (AMBP), receptor kinase ligand LERK-3/Ephrin-A3, GATA-4, thymopoietin, transcription factor E2f-2, S-adenosylmethionine synthetase, carcinoembryonic antigen, the ret oncogene, a G protein-linked receptor (clone GPCR W), GTP- binding protein RALB, tyrosine kinase Syk, LERK-2/Ephrin-B1, ELK1 tyrosine kinase oncogene, transcription factor SL1, phospholipase C, gastricsin (progastricsin), and the D13S824E locus.

L2 ANSWER 10 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:851281 CAPLUS
DN 139:317478
TI Method for preventing tissue injury from hypoxia
IN Bursten, Stuart L.; Singer, Jack W.; Rice, Glenn C.
PA Cell Therapeutics, Inc., USA
SO U.S., 38 pp., Cont.-in-part of U.S. Ser. No. 152,117, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6638938	B1	20031028	US 1994-353756	19941212
	US 5856331	A	19990105	US 1997-948747	19971010
	US 2003216414	A1	20031120	US 2003-434097	20030509
PRAI	US 1993-152117	B2	19931112		
	US 1994-353756	A1	19941212		

OS MARPAT 139:317478
AB There is disclosed a method for preventing tissue injury caused by tissue hypoxia and reoxygenation, comprising administering a compound that inhibits signal transduction by inhibiting cellular accumulation of linoleoyl-phosphatidic acid (PA) through an inhibition of the enzyme **LPAAT** (lysophosphatidic acyltransferase).
RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 11 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:844945 CAPLUS
DN 140:246321
TI Inhibition of lysophosphatidic acid acyltransferase β disrupts proliferative and survival signals in normal cells and induces apoptosis of tumor cells
AU Coon, Michael; Ball, Alexey; Pound, Jeannine; Ap, Sophe; Hollenback, David; White, Thayer; Tulinsky, John; Bonham, Lynn; Morrison, Deborah K.; Finney, Robert; Singer, Jack W.
CS Cell Therapeutics, Seattle, WA, USA
SO Molecular Cancer Therapeutics (2003), 2(10), 1067-1078
CODEN: MCTOCF; ISSN: 1535-7163
PB American Association for Cancer Research
DT Journal
LA English
AB Lysophosphatidic acid acyltransferase β (**LPAAT**-β) is an intrinsic membrane protein that catalyzes the synthesis of phosphatidic acid (PA) from lysoPA. Given that PA is a cofactor in a number of signaling cascades that are constitutively active in tumors, we evaluated the role of PA produced by **LPAAT**-β in Xenopus oocyte meiotic maturation assays and an isoform-specific inhibitor of **LPAAT** -β in mammalian cell assays. We found that ectopic overexpression of **LPAAT**-β cooperates in activation of the Ras/Raf/Erk pathway in Xenopus oocytes and that inhibition of **LPAAT**-β inhibits signaling in both the Ras/Raf/Erk and PI3K/Akt pathways. When **LPAAT**-β activity is suppressed by CT32228 (N-(4-bromo-phenyl)-6-(5-chloro-2-methyl-phenyl)-[1,3,5]triazine-2,4-diamine), an isoform-specific noncompetitive inhibitor, tumor cells undergo mitotic catastrophe while most normal cells simply arrest or become quiescent. The data presented here suggest that PA produced by **LPAAT**-β plays an important role in signaling pathways critical to tumor cell survival.
RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 12 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:744554 CAPLUS
DN 139:361710
TI A multigene family of lysophosphatidic acid acyltransferases of Arabidopsis thaliana
AU Maisonneuve, S.; Guyot, R.; Delseny, M.; Roscoe, T.
CS Laboratoire de Genome et Developpement des Plantes, C.N.R.S. UMR 5096, Universite de Perpignan, Perpignan, 66860, Fr.
SO Advanced Research on Plant Lipids, Proceedings of the International Symposium on Plant Lipids, 15th, Okazaki, Japan, May 12-17, 2002 (2003), Meeting Date 2002, 183-186. Editor(s): Murata, Norio. Publisher: Kluwer Academic Publishers, Dordrecht, Neth.
CODEN: 69ENJ3; ISBN: 1-4020-1105-9
DT Conference
LA English
AB A genomics based approach has been used to identify members of the lysophosphatidic acid acyltransferase (**LPAAT**) multigene family in Arabidopsis thaliana. Ten putative members of this family containing conserved motifs known to be present in **LPAAT** and in glycerol-3-phosphate acyltransferase (GPAT) proteins have been identified in the Arabidopsis thaliana genome. These acyltransferases were classified according to their sequence similarity. A member of the first class of genes encodes a **LPAAT** implicated in glycerolipid biosynthesis in the eukaryotic pathway. The second class contains a gene that encodes an **LPAAT** of the prokaryotic pathway of lipid biosynthesis in plastids. An addnl. class containing three genes encodes proteins of unknown function previously undescribed as acyltransferases. The sequence divergence, compartmentalization and differential expression of members of the gene family are consistent with a specific role for each **LPAAT** isoform in the production of phosphatidic acid.
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 13 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:733825 CAPLUS
DN 140:35180
TI Lysophosphatidic acid acyltransferase-β: a novel target for induction of tumour cell apoptosis
AU Bonham, Lynn; Leung, David W.; White, Thayer; Hollenback, David; Klein, Peter; Tulinsky, John; Coon, Michael; de Vries, Peter; Singer, Jack W.
CS Cell Therapeutics, Inc., Seattle, WA, 98119, USA
SO Expert Opinion on Therapeutic Targets (2003), 7(5), 643-661
CODEN: EOTTAO; ISSN: 1472-8222
PB Ashley Publications Ltd.
DT Journal; General Review
LA English
AB A review. Phosphatidic acid (PA) is a component of cellular membranes that is also a mediator of certain cell signalling functions associated with oncogenesis. These include ras/raf/Erk and Akt/mTor [1-3]. The authors have investigated whether it would be possible to interrupt these known oncogenic pathways through the inhibition of lysophosphatidic acid acyltransferase (**LPAAT**), an enzyme that catalyzes the biosynthesis of PA. The expression and activity of the **LPAAT** -β isoform are elevated in human tumors, and the resp. gene displays transforming capacity when overexpressed in vitro. Inhibition by either genetic means or by isoform-specific small mols. results in a block to cell signalling pathways and apoptosis. Furthermore, the small-mol. inhibitors of **LPAAT**-β are not cytotoxic to a number of normal cell types, including primary bone marrow progenitors, indicating a differential dependence of tumor cells on **LPAAT**-β function. These discoveries indicate that **LPAAT**-β represents a potential novel cancer therapy target.
RE.CNT 75 THERE ARE 75 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 14 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:720226 CAPLUS
DN 140:36712
TI Cloning and identification of the human **LPAAT**-zeta gene, a novel member of the lysophosphatidic acid acyltransferase family
AU Li, Dan; Yu, Long; Wu, Hai; Shan, Yuxi; Guo, Jinhu; Dang, Yongjun; Wei, Youheng; Zhao, Shouyuan
CS State Key Laboratory of Genetic Engineering, Institute of Genetics, School of Life Science, Fudan University, Shanghai, 200433, Peop. Rep. China
SO Journal of Human Genetics (2003), 48(8), 438-442
CODEN: JHGEFR; ISSN: 1434-5161
PB Springer-Verlag Tokyo
DT Journal
LA English
AB Lysophosphatidic acid (LPA) is a naturally occurring component of phospholipid and plays a critical role in the regulation of many physiol. and pathophysiol. processes including cell growth, survival, and pro-angiogenesis. LPA is converted to phosphatidic acid by the action of lysophosphatidic acid acyltransferase (**LPAAT**). Five members of the **LPAAT** gene family have been detected in humans to date. Here, we report the identification of a novel **LPAAT** member, which is designated as **LPAAT**-ζ. **LPAAT**-ζ was predicted to encode a protein consisting of 456 amino acid residues with a signal peptide sequence and the acyltransferase domain. Northern blot anal. showed that **LPAAT**-ζ was ubiquitously expressed in all 16 human tissues examined, with levels in the skeletal muscle, heart, and testis being relatively high and in the lung being relatively low. The human **LPAAT**-ζ gene consisted of 13 exons and is positioned at chromosome 8p11.21.
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 15 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:530991 CAPLUS
DN 139:116168
TI Acylation of lysophosphatidylcholine plays a key role in the response of monocytes to lipopolysaccharide
AU Schmid, Bernhard; Finnen, Michael J.; Harwood, John L.; Jackson, Simon K.
CS School of Biosciences, Cardiff University, UK
SO European Journal of Biochemistry (2003), 270(13), 2782-2788
CODEN: EJBCAI; ISSN: 0014-2956
PB Blackwell Publishing Ltd.
DT Journal
LA English
AB Mononuclear phagocytes play a pivotal role in the progression of septic shock by producing tumor necrosis factor-α (TNF-α) and other inflammatory mediators in response to lipopolysaccharide (LPS) from Gram-neg. bacteria. Our previous studies have shown monocyte and macrophage activation correlate with changes in membrane phospholipid composition, mediated by acyltransferases. Interferon-γ (IFN-γ), which activates and primes these cells for enhanced inflammatory responses to LPS, was found to selectively activate lysophosphatidylcholine acyltransferase (LPCAT) ($P < 0.05$) but not lysophosphatidic acid acyltransferase (**LPAAT**) activity. When used to prime the human monocytic cell line MonoMac 6, the production of TNF-α and interleukin-6 (IL-6) was approx. five times greater in cells primed with IFN-γ than unprimed cells. Two LPCAT inhibitors SK&F 98625 (di-Et 7-(3,4,5-triphenyl-2-oxo2,3-dihydro-imidazole-1-yl)heptane phosphonate) and YM 50201 (3-hydroxyethyl 5,3'-thiophenyl pyridine) strongly inhibited (up to 90%) TNF-α and IL-6 production in response to LPS in both unprimed MonoMac-6 cells and in cells primed with IFN-γ. In similar expts., these inhibitors also substantially decreased the response of both primed and unprimed peripheral blood mononuclear cells to LPS. Sequence-based amplification methods showed that SK&F 98625 inhibited TNF-α production by decreasing TNF-α mRNA levels in MonoMac-6 cells. The data from these studies suggest that LPCAT is a key enzyme in both the pathways of activation (priming) and the inflammatory response to LPS in monocytes.
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 16 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:409169 CAPLUS
DN 138:380506
TI Genes that are differentially expressed during erythropoiesis and their diagnostic and therapeutic uses
IN Brissette, William H.; Neote, Kuldeep S.; Zagouras, Panayiotis; Zenke, Martin; Lemke, Britt; Hacker, Christine
PA Pfizer Products Inc., USA; Max-Delbrueck-Centrum Fuer Molekulare Medizin
SO PCT Int. Appl., 285 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003038130	A2	20030508	WO 2002-XA34888	20021031
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	WO 2003038130	A2	20030508	WO 2002-US34888	20021031
	WO 2003038130	A3	20040212		
	WO 2003038130	C1	20040422		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 2001-335048P	P	20011031		
	US 2001-335183P	P	20011102		
	WO 2002-US34888	A	20021031		

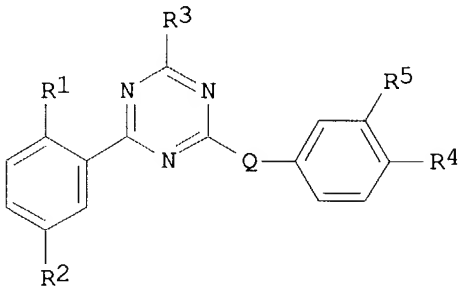
AB The present invention provides mol. targets that regulate erythropoiesis. Groups of genes or their encoded gene products comprise panels of the invention and may be used in therapeutic intervention, therapeutic agent screening, and in diagnostic methods for diseases and/or disorders of erythropoiesis. The panels were discovered using gene expression profiling of erythroid progenitors with Affymetrix HU6800 and HG-U95Av2 chips. Cells from an in vitro growth and differentiation system of SCF-Epo dependent human erythroid progenitors, E-cadherin+/CD36+ progenitors, cord blood, or CD34+ peripheral blood stem cells were analyzed. The HU6800 chip contains probes from 13,000 genes with a potential role in cell growth, proliferation, and differentiation and the HG-U95Av2 chip contains 12,000 full-length, functionally-characterized genes. [This abstract record is one of two records for this document necessitated by the large number of index entries required to fully index the

document and publication system constraints.].

L2 ANSWER 17 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:356266 CAPLUS
DN 138:354007
TI Preparation of 6-phenyl-N-phenyl-[1,3,5]triazine-2,4-diamine derivatives and related compounds with lysophosphatidic acid acyltransferase β (**LPAAT**-β) inhibitory activity for use in the treatment of cancer
IN Bhatt, Rama; Gong, Baoqing; Hong, Feng; Jenkins, Scott A.; Klein, J. Peter; Kumar, Anil M.; Tulinsky, John
PA Cell Therapeutics, Inc., USA
SO PCT Int. Appl., 96 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2003037346	A1	20030508	WO 2002-US35256	20021030
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003153570	A1	20030814	US 2002-285364	20021030
PRAI US 2001-330772P	P	20011031		

OS MARPAT 138:354007
GI



I

AB The invention relates to 6-phenyl-N-phenyl-[1,3,5]triazine-2,4-diamines (shown as I; variables defined below; e.g. 6-(5-chloro-2-methoxyphenyl)-N-(4-chlorophenyl)-[1,3,5]triazine-2,4-diamine and prodrug (S)-pyrrolidine-2-carboxylic acid 4-[[4-amino-6-(5-chloro-2-methylphenyl)-[1,3,5]triazin-2-yl]amino]benzyl ester) and uses thereof, including inhibition of lysophosphatidic acid acyltransferase β (**LPAAT** -β) activity and/or proliferation of cells such as tumor cells, where R1-R5 are H or nonhydrogen substituents, and Q is a heteroatom or heteroatom attached to ≥1 methylene groups. For I: Q is NH, N(CH2)n, (CH2)nN, O, O(CH2)n, (CH2)nO, S, S(CH2)n or (CH2)nS, where n is

1-10; R1 is H, OH, alkyl, alkoxy, Cl, F, Br, CR3 where R3 is Cl3, F3 or Br3, NH2, NHR or NRR' where R and R' independently are alkyl; R2 is H, OH, alkyl, alkoxy, Cl, F, Br or CR3 where R3 is Cl3, F3 or Br3. R3 is H, alkyl, alkoxy, CCl3, CN, NH2, or SR where R and R' independently are alkyl; R4 and R5 = H, OH, alkyl, alkenyl, alkynyl, alkoxy, (CH2)nOR where R is H or alkyl and n is 1-10, Cl, F, Br, CR3 where R3 is Cl3, F3 or Br3, acyl, heterocycle, N+(:O)O, CN, N3, SH, SR where R is alkyl, NH2, NHR or NRR' where R and R' independently are alkyl or are joined together to form a ring with the N, or R4 and R5 are taken together with the benzene ring to form a heterocycle or R4 and R5 = alkyl or alkenyl and joined together to form a ring with the two C atoms of the benzene ring to which R4 and R5 are attached; addnl. details including provisos are given in the claims. IC50 values are tabulated for inhibition of **LPAAT-β** by 90 examples of I; e.g. 6-(5-chloro-2-methoxyphenyl)-N-(4-chlorophenyl)-[1,3,5]triazine-2,4-diamine exhibits IC50 = 0.057 μM. Although the methods of preparation are not claimed, 90 example prepns. are included.

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 18 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:270222 CAPLUS
DN 138:266963
TI Gene expression profiles useful in methods of diagnosis of cancer compositions and methods of screening for modulators of cancer
IN Afar, Daniel; Aziz, Natasha; Gish, Kurt C.; Hevezi, Peter A.; Mack, David H.; Wilson, Keith E.; Zlotnik, Albert
PA EOS Biotechnology, Inc., USA
SO PCT Int. Appl., 767 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 37

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003025138	A2	20030327	WO 2002-XC29560	20020917
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	WO 2003025138	A2	20030327	WO 2002-US29560	20020917
	WO 2003025138	A3	20030508		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRAI	US 2001-323469P	P	20010917
	US 2001-323887P	P	20010920
	US 2001-350666P	P	20011113
	US 2002-355145P	P	20020208
	US 2002-355257P	P	20020208
	US 2002-372246P	P	20020412
	WO 2002-US29560	A	20020917

AB Described herein are genes whose expression are up-regulated or down-regulated in specific cancers, including acute lymphocytic leukemia, glioblastoma, glioblastoma multiforme, glioma, kidney cancer, stomach cancer, melanoma, and benign NEVI. Mol. profiles of various normal and cancerous tissues were determined and analyzed using the Affymetrix/Eos Hu01 and Hu03 GeneChip microarrays containing 35,403 and 59,680 probe sets, resp. Related methods and compns. that can be used for diagnosis and treatment of those cancers are disclosed. Also described herein are methods that can be used to identify modulators of selected cancers. [This abstract record is one of nine records for this documents necessitated by the large number of index entries required to fully index the document and publication

system constraints.].

L2 ANSWER 19 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:24612 CAPLUS
DN 138:50950
TI Gene expression profiles useful for diagnosis of human ovarian cancer and screening for modulators of ovarian cancer
IN Mack, David H.; Gish, Kurt C.
PA Eos Biotechnology Inc., USA
SO PCT Int. Appl., 332 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 37

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002102235	A2	20021227	WO 2002-XC19297	20020618
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2004005563	A1	20040108	US 2002-173999	20020617
	WO 2002102235	A2	20021227	WO 2002-US19297	20020618
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2003124579	A1	20030703	US 2002-235399	20020904
PRAI	US 2001-299234P	P	20010618		
	US 2001-315287P	P	20010827		
	US 2001-317544P	P	20010905		
	US 2001-350666P	P	20011113		
	US 2002-372246P	P	20020412		
	WO 2002-US19297	W	20020618		

AB Described herein are genes whose expression are up-regulated or down-regulated in ovarian cancer compared to normal adult tissues. The genes are identified using the Affymetrix/Eos Hu01 or Hu03 GeneChip microarrays containing 35,403 and 59,680 probesets, resp. Related methods and compns. that can be used for diagnosis and treatment of ovarian cancer are disclosed. Also described herein are methods that can be used to identify modulators of ovarian cancer. [This abstract record is one of five records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.].

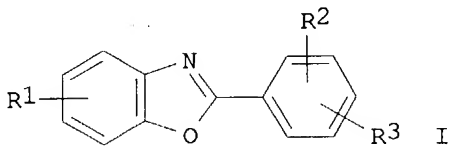
L2 ANSWER 20 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:547502 CAPLUS
DN 137:334280
TI Endophilin-1: a multifunctional protein
AU Reutens, Anne T.; Glenn Begley, C.
CS The University of WA, Centre for Child Health Research and the Western Australian Institute for Medical Research, Telethon Institute for Child Health Research, Subiaco, WA 6008, Australia
SO International Journal of Biochemistry & Cell Biology (2002), 34(10), 1173-1177
CODEN: IJBBFU; ISSN: 1357-2725
PB Elsevier Science Ltd.
DT Journal; General Review
LA English
AB A review. Endophilin-1, a cytoplasmic Src homol. 3 (SH3) domain-containing protein, localizes in brain presynaptic nerve termini. Endophilin dimerizes through its N-terminus, and participates at multiple stages in clathrin-coated endocytosis, from early membrane invagination to synaptic vesicle uncoating. Both its C-terminal SH3 domain and N-terminus are required for endocytosis. Through its SH3 domain, endophilin bound to proline-rich domains (PRDs) in other endocytic proteins, including synaptojanin and dynamin. The N-terminal region possesses unique functions affecting lipid membrane curvature, through lysophosphatidic acid acyl transferase (**LPAAT**) activity and direct binding and tubulating activity. In addition to synaptic vesicle formation, endophilin-1 complexes with signaling mols., including cell surface receptors, metalloprotease disintegrins and germinal center kinase-like kinase (GLK). Therefore, endophilin-1 may serve to couple vesicle biogenesis with intracellular signaling cascades.
RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 21 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:519175 CAPLUS
DN 137:197400
TI Limnanthes douglasii lysophosphatidic acid acyltransferases: immunological quantification, acyl selectivity and functional replacement of the Escherichia coli plsC gene
AU Brown, Adrian P.; Carnaby, Simon; Brough, Clare; Brazier, Melissa; Slabas, Antoni R.
CS Department of Biological Sciences, University of Durham, Durham, DH1 3LE, UK
SO Biochemical Journal (2002), 364(3), 795-805
CODEN: BIJOAK; ISSN: 0264-6021
PB Portland Press Ltd.
DT Journal
LA English
AB Antibodies were raised against the two membrane-bound lysophosphatidic acid acyltransferase (**LPAAT**) enzymes from Limnanthes douglasii (meadowfoam), LAT1 and LAT2, using the predicted soluble portion of each protein as recombinant protein antigens. The antibodies can distinguish between the two acyltransferase proteins and demonstrate that both migrate in an anomalous fashion on SDS/PAGE gels. The antibodies were used to determine that LAT1 is present in both leaf and developing seeds, whereas LAT2 is only detectable in developing seeds later than 22 daf (days after flowering). Both proteins were found exclusively in microsomal fractions and their amount was determined using the recombinant antigens as quantification stds. LAT1 is present at a level of 27 pg/μg of membrane protein in leaf tissue and ≤ 12.5 pg/μg of membrane protein in developing embryos. The amount of LAT2 reaches a peak at 305 pg/μg of membrane protein 25 daf and is not expressed 20 daf or before. This is the first study to quantify these membrane-bound proteins in a plant tissue. The maximal level of LAT2 protein coincides with the maximal level of erucic acid synthesis in the seeds. Both full-length proteins were expressed in the Escherichia coli **LPAAT** mutant JC201, and membranes from these strains were used to investigate the substrate selectivity of these two enzymes, demonstrating that they are different. Finally, we report that LAT2 and a maize **LPAAT** enzyme (MAT1) can functionally replace the E. coli plsC gene after its deletion in the chromosome, whereas LAT1 and a coconut **LPAAT** (Coco1) cannot. This is probably due to differences in substrate utilization.
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 22 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:353443 CAPLUS
DN 136:369706
TI Preparation of benzoxazole **LPAAT**-β inhibitors
IN Bonham, Lynn; Leung, David W.; Hollenback, David M.; Klein, J. Peter; Finney, Robert E.; White, Thayer H.; Shaffer, Scott A.; Tang, Norina M.
PA USA
SO PCT Int. Appl., 102 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002036580	A2	20020510	WO 2001-US42836	20011030
	WO 2002036580	C2	20030213		
	WO 2002036580	A3	20020906		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2002016649	A5	20020515	AU 2002-16649	20011030
	US 2002107269	A1	20020808	US 2001-984889	20011031
PRAI	US 2000-244194P	P	20001031		
	WO 2001-US42836	W	20011030		

OS MARPAT 136:369706
GI



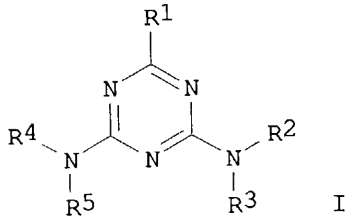
I

AB The title compds. [I; R1 = halo, aryl, (un)substituted alkyl, alkoxy, aryloxy, substituted NH2; R2, R3 = H, halo, alkenyl, alkynyl, (un)substituted aryl, substituted NH2; provided that at least one of R2 and R3 = alkylacyl substituted NH2], useful in inhibiting lysophosphatidic acid acyltransferase β (**LPAAT**-β) activity, were prepared Thus, reacting 3-(benzoxazol-2-yl)-4-chlorophenylamine (preparation given) with propionyl chloride in the presence of pyridine in THF afforded 100% I [R1 = H; R2 = 2-Cl; R3 = 5-(NHCOCH2Me)] which showed IC50 of 900 nM in **LPAAT**.beta. colorimetric assay. The invention further relates to methods of treating cancer using benzoxazoles I. The invention also relates to methods for screening for **LPAAT**-β activity.

L2 ANSWER 23 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:353441 CAPLUS
DN 136:369744
TI Preparation of triazines as **LPAAT**-β inhibitors
IN Bonham, Lynn; Leung, David W.; White, Thayer H.; Klein, J. Peter; Finney, Robert E.; Hollenback, David M.; Shaffer, Scott A.; Tang, Norina M.
PA USA
SO PCT Int. Appl., 75 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002036578	A2	20020510	WO 2001-US42837	20011030
	WO 2002036578	A3	20030403		
	WO 2002036578	C2	20040422		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2002016650	A5	20020515	AU 2002-16650	20011030
	US 2002103195	A1	20020801	US 2001-984888	20011031
	US 2003100557	A1	20030529	US 2002-236084	20020906
	US 2004162288	A1	20040819	US 2003-712900	20031113
PRAI	US 2000-244195P	P	20001031		
	WO 2001-US42837	W	20011030		
	US 2001-984888	A1	20011031		
	US 2002-236084	B3	20020906		

OS MARPAT 136:369744
GI



I

AB The title compds. [I; R1 = halo, OH, alkylmercapto, SH, alkoxy, aryloxy, substituted NH2; R2-R5 = H, (un)substituted alkyl, alkenyl, alkynyl, aryl; or R2 and R3 or R4 and R5, together with the N atom to which they are attached, form a piperidine, piperazine or a morpholine ring], useful in inhibiting lysophosphatidic acid acyltransferase β (**LPAAT** -β) activity, were prepared Thus, reacting (4-chlorophenyl)(4,6-dichloro-[1,3,5]triazin-2-yl)amine (preparation given) with p-anisidine

afforded 62% I [R1 = Cl; R2, R4 = H; R3 = 4-ClC6H4; R5 = 4-MeOC6H4] which showed IC50 of 750 nM in **LPAAT**.beta. colorimetric assay. The invention further relates to methods of treating cancer using triazines I. The invention also relates to methods for screening for **LPAAT** -β activity.

L2 ANSWER 24 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:115261 CAPLUS
DN 137:42411
TI Cloning and localization of the bovine and ovine Lysophosphatidic acid acyltransferase (**LPAAT**) genes that codes for an enzyme involved in triglyceride biosynthesis
AU Mistry, D. H.; Medrano, J. F.
CS Department of Animal Science, University of California, Davis, Davis, CA, 95616-8521, USA
SO Journal of Dairy Science (2002), 85(1), 28-35
CODEN: JDSCAE; ISSN: 0022-0302
PB American Dairy Science Association
DT Journal
LA English
AB Lysophosphatidic acid acyltransferase (**LPAAT**) catalyzes the addition of fatty acyl moieties to the sn-2 position of the glycerol backbone of lysophosphatidic acid in triglyceride biosynthesis. In this study, we have cloned, sequenced, and characterized the bovine and ovine **LPAAT** cDNA. Both encode proteins of 287 amino acids with mol. masses of 32 and 31.9 kDa, resp., differing only by a single amino acid residue. The bovine and ovine **LPAAT** are predicted to be transmembrane enzymes localized to the endoplasmic reticulum. We also characterized the sequence and genomic organization of the bovine **LPAAT** gene. The gene consists of seven exons and six introns, spanning a 7.5-kb distance. With the use of a whole genome radiation hybrid panel, we localized the bovine **LPAAT** to the central region of chromosome 23.
RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 25 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:801094 CAPLUS
DN 136:289441
TI How can we genetically engineer oilseed crops to produce high levels of medium-chain fatty acids?
AU Dehesh, Katayoon
CS Monsanto Corporation, Davis, CA, USA
SO European Journal of Lipid Science and Technology (2001), 103(10), 688-697
CODEN: EJLTFM; ISSN: 1438-7697
PB Wiley-VCH Verlag GmbH
DT Journal; General Review
LA English
AB A review. The end products of fatty acid synthase activities are usually 16- and 18-carbon fatty acids. There are however, several plant species that store 8- to 14-carbon (medium-chain) fatty acids in their oil seeds. Among the medium-chain fatty acids (MCFA), caprylic (8:0) and capric (10:0) are minor components of coconut oil, which are used in many industrial, nutritional and pharmaceutical products. Engineering crop plants such as Brassica could provide an economical source of these oils. During the last decade many labs. have identified, cloned and characterized both the biosynthetic and catabolic enzymes regulating the composition and levels of these unusual fatty acids in seed oil. Among the biosynthetic enzymes thioesterases (TE), β-ketoacyl-ACP synthases (KAS) and acyltransferases are best characterized. In fact several independent investigators have shown that combined expression of the medium-chain specific enzymes, specifically, TE, KAS and lysophosphatidic acid acyltransferase (**LPAAT**) results in the production of significant levels of MCFA in seed that otherwise do not accumulate any medium-chain fatty acid. However, any addnl. increase in the levels of MCFA in transgenic seeds will require further detailed studies, such as possible induction of the medium-chain specific enzymes in β-oxidation and the glyoxylate pathways. To examine such a possibility, a number of genes involved in the β-oxidation cycle among them a novel enzyme now designated as ACX3, a medium-chain specific acyl-CoA-oxidase, has also been cloned. This article is an attempt to summarize our current knowledge and the present status of engineering oilseed crops for production of medium-chain fatty acids.
RE.CNT 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 26 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:754240 CAPLUS
DN 136:81700
TI The structure and functions of human lysophosphatidic acid acyltransferases
AU Leung, David W.
CS Cell Therapeutics, Inc., Seattle, WA, 98119, USA
SO Frontiers in Bioscience [online computer file] (2001), 6, D944-D953
CODEN: FRBIF6; ISSN: 1093-4715
URL: http://www.bioscience.org/2001/v6/d/leung/pdf.pdf
PB Frontiers in Bioscience
DT Journal; General Review; (online computer file)
LA English
AB A review. Lysophosphatidic acid (LPA) and phosphatidic acid (PA) are two phospholipids involved in signal transduction and in lipid biosynthesis in cells. LPA acyltransferase (**LPAAT**), also known as 1-acyl sn-glycerol-3-phosphate acyltransferase (1-AGPAT) (EC 2.3.1.51), catalyzes the conversion of LPA to PA. Two human isoforms of **LPAAT**, designated as **LPAAT**-α (AGPAT1) and **LPAAT**-β (AGPAT2), have been extensively characterized. These two proteins contain extensive sequence similarities to microbial, plant and animal **LPAAT** sequences. **LPAAT**-α mRNA is uniformly expressed throughout most tissues with the highest level found in skeletal muscle; whereas **LPAAT**-β is differentially expressed, with the highest level found in heart and liver, and negligible level in brain and placenta. The **LPAAT**-α gene is located on chromosome 6p21.3, an area within the class III region of the major histocompatibility complex (MHC) and the **LPAAT**-β gene is mapped to chromosome 9q34.3. Enhanced transcription of **LPAAT** -β is suggested for neoplasm of the female genital tract. Addnl., ectopic **LPAAT** expression in certain cytokine-responsive cell lines can effect amplification of cellular signaling processes, such as those leading to enhancement of synthesis of tumor necrosis factor-α and interleukin-6 from cells following stimulation with interleukin-1β; this suggests that the **LPAAT** genes represent candidates for affecting the development of certain cancers or inflammation-associated diseases.
RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 27 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:744643 CAPLUS
DN 135:285008
TI Cloning and cDNA and protein sequences of human lysophosphatidic acid acyltransferase isoforms
IN Leung, David W.; Adourel, Daniel; Hollenback, David
PA Cell Therapeutics, Inc., USA
SO U.S., 69 pp., Cont.-in-part of U.S. Ser. No. 618,651, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6300487	B1	20011009	US 1998-215252	19981218
	US 6136964	A	20001024	US 1996-618651	19960319
	AU 9920023	A1	20000712	AU 1999-20023	19981218
	EP 1141323	A1	20011010	EP 1998-964774	19981218
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002533085	T2	20021008	JP 2000-589709	19981218
	US 2002156262	A1	20021024	US 2001-970989	20011005
	US 6670143	B2	20031230		
	US 2004043465	A1	20040304	US 2003-667494	20030923
	US 2004082049	A1	20040429	US 2003-667462	20030923
	US 2004086996	A1	20040506	US 2003-667464	20030923
PRAI	US 1996-618651	B2	19960319		
	US 1998-215252	A3	19981218		
	WO 1998-US26923	A	19981218		
	US 2001-970989	A3	20011005		

AB Human polypeptides are obtained, for example, via expression of encoding cDNA sequences, that have the activity of the enzyme lysophosphatidic acid acyltransferase (**LPAAT**), also known as 1-acyl sn-glycerol-3-phosphate acyltransferase (EC 2.3.1.5). Five isoforms (α, β, γ1, γ2, and δ) of **LPAAT** are identified.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 28 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:549882 CAPLUS
DN 136:211582
TI New polymorphic microsatellite markers in the human MHC class III region
AU Mtsuzaka, Y.; Makino, S.; Nakajima, K.; Tomizawa, M.; Oka, A.; Bahram, S.; Kulski, J. K.; Tamiya, G.; Inoko, H.
CS Department of Molecular Life Science, Tokai University School of Medicine, Kanagawa, 259-11, Japan
SO Tissue Antigens (2001), 57(5), 397-404
CODEN: TSANA2; ISSN: 0001-2815
PB Munksgaard International Publishers Ltd.
DT Journal
LA English
AB The human major histocompatibility complex (MHC) class III region spanning approx. 760 kb is characterized by a remarkably high gene d. with 59 expressed genes (one gene every 12.9 kb). Recently, susceptibility loci to numerous diseases, such as Graves disease, Crohn disease, and SLE have been suggested to be localized to this region, as assessed by assocns. mainly with genetic polymorphism of TNF and TNF-linked microsatellite loci. However, it has been difficult to precisely localize these susceptibility loci to a single gene due to a paucity to date of polymorphic markers in the HLA class III region. To facilitate disease mapping within this region, we have analyzed 2.apprx.5 bases short tandem repeats (microsatellites) in this region. A total of 297 microsatellites were identified from the genomic sequence, consisting of 69 di-, 62 tri-, 107 tetra-, and 59 penta-nucleotide repeats. It was noted that among them as many as 17 microsatellites were located within the coding sequence of expressed genes (NOTCH4, PBX2, RAGE, G16, **LPAAT**, PPT2, TNXB, P 450-CYP21B, G9a, HSP70-2, HSP70-1, HSP-hom, MuTSH5 and BAT2). Eight microsatellite repeats were collected as polymorphic markers due to their high number of alleles (11.9 on average) as well as their high polymorphic content value (PIC) (0.63). By combining the 38 and the 22 polymorphic microsatellites we have previously collected in the HLA class I and class II regions, resp., we have now established a total of 68 novel genetic markers which are uniformly interspersed with a high d. of one every 63.3 kb throughout the HLA region. This collection of polymorphic microsatellites will enable us to search for the location of any disease susceptible loci within the HLA region by association anal.
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 29 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:549025 CAPLUS
DN 135:223301
TI ATP-independent fatty acyl-coenzyme A synthesis from phospholipid. Coenzyme A-dependent transacylation activity toward lysophosphatidic acid catalyzed by acyl-coenzyme A:lysophosphatidic acid acyltransferase
AU Yamashita, Atsushi; Kawagishi, Norikazu; Miyashita, Tomoyuki; Nagatsuka, Tomonari; Sugiura, Takayuki; Kume, Kazuhiko; Shimizu, Takao; Waku, Keizo
CS Faculty of Pharmaceutical Sciences, Teikyo University, Kanagawa, 199-0195, Japan
SO Journal of Biological Chemistry (2001), 276(29), 26745-26752
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English
AB CoA-dependent transacylation activity in microsomes is known to catalyze the transfer of fatty acids between phospholipids and lysophospholipids in the presence of CoA without the generation of free fatty acids. We previously found a novel acyl-CoA synthetic pathway, ATP-independent acyl-CoA synthesis from phospholipids. We proposed that: 1) the ATP-independent acyl-CoA synthesis is due to the reverse reaction of acyl-CoA:lysophospholipid acyltransferases and 2) the reverse and forward reactions of acyltransferases can combine to form a CoA-dependent transacylation system. To test these proposals, we examined whether or not recombinant mouse acyl-CoA:1-acyl-sn-glycero-3-phosphate (lysophosphatidic acid, LPA) acyltransferase (**LPAAT**) could catalyze ATP-independent acyl-CoA synthetic activity and CoA-dependent transacylation activity. ATP-independent acyl-CoA synthesis was indeed found in the membrane fraction from Escherichia coli cells expressing mouse **LPAAT**, whereas negligible activity was observed in mock-transfected cells. Phosphatidic acid (PA), but not free fatty acids, served as an acyl donor for the reaction, and LPA was formed from PA in a CoA-dependent manner during acyl-CoA synthesis. These results indicate that the ATP-independent acyl-CoA synthesis was due to the reverse reaction of **LPAAT**. In addition, bacterial membranes containing **LPAAT** catalyzed CoA-dependent acylation of LPA; PA but not free fatty acid served as an acyl donor. These results indicate that the CoA-dependent transacylation of LPA consists of 1) acyl-CoA synthesis from PA through the reverse action of **LPAAT** and 2) the transfer of the fatty acyl moiety of the newly formed acyl-CoA to LPA through the forward reaction of **LPAAT**.
RE.CNT 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 30 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:14776 CAPLUS
DN 134:204594
TI A simple and highly sensitive radioenzymatic assay for lysophosphatidic acid quantification
AU Saulnier-Blache, Jean Sebastien; Girard, Alexia; Simon, Marie-Francoise; Lafontan, Max; Valet, Philippe
CS INSERM U317, Institut Louis Bugnard, Universite Paul Sabatier, CHU Rangueil, Toulouse, 31403, Fr.
SO Journal of Lipid Research (2000), 41(12), 1947-1951
CODEN: JLPRAW; ISSN: 0022-2275
PB Lipid Research, Inc.
DT Journal
LA English
AB The objective of the present work was to develop a simple and sensitive radioenzymic assay to quantify lysophosphatidic acid (LPA). For that, a recombinant rat LPA acid acyltransferase (**LPAAT**) produced in Escherichia coli was used. In the presence of [14C]oleoyl-CoA, **LPAAT** selectively catalyzes the transformation of LPA and alkyl-LPA into [14C]phosphatidic acid. Acylation of LPA was complete and linear from 0 to 200 pmol with a minimal detection of 0.2 pmol. This method was used to quantify LPA in BuOH-extracted lipids from bovine sera, as well as from human and mouse plasma. This radioenzymic assay represents a new, simple, and highly sensitive method to quantify LPA in various biol. fluids.
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 31 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:843813 CAPLUS
DN 134:190748
TI The distribution of caprylate, caprate and laurate in lipids from developing and mature seeds of transgenic Brassica napus L.
AU Wiberg, Eva; Edwards, Patricia; Byrne, James; Stymne, Sten; Dehesh, Katayoon
CS Calgene, Davis, CA, 95616, USA
SO Planta (2000), 212(1), 33-40
CODEN: PLANAB; ISSN: 0032-0935
PB Springer-Verlag
DT Journal
LA English
AB The composition and positional distribution of lipids in developing and mature transgenic Brassica napus seeds accumulating up to 7 mol% of caprylate (8:0), 29 mol% caprate (10:0) or 63 mol% of laurate (12:0) were examined The accumulation of 8:0 and 10:0 resulted from over-expression of the medium-chain-specific thioesterase (Ch FatB2) alone or together with the resp. chain-length-specific condensing enzyme (Ch KASIV). Seeds containing high levels of 12:0 were obtained from plants expressing bay thioesterase (BTE) alone or crossed with a line over-expressing the coconut lysophosphatidic acid acyltransferase (**LPAAT**), an enzyme responsible for the increase in acylation of 12:0 at the sn-2 position. In all instances, 10:0 and 12:0 fatty acids were present in substantial amts. in phosphatidylcholine during seed development with a drastic decrease of 80-90% in mature seeds. At all stages of seed development however, 8:0 was barely detectable in this membrane lipid. Altogether, these results indicate that these transgenic seeds exclude and/or remove the medium-chain fatty acids from their membrane and that this mechanism(s) is more effective with the shorter-chain fatty acids. Furthermore, seeds of 8:0- and 10:0-producing lines had only negligible levels of these fatty acids present in the sn-2 position of the triacylglycerols. In contrast, all 12:0-producing seeds had a substantial amount of this fatty acid in the sn-2 position of the triacylglycerols, suggesting that the endogenous **LPAAT** is able to acylate 12:0 if no other acyl-CoA species are available.
RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 32 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:806254 CAPLUS
DN 134:95917
TI cDNA cloning, expression and chromosomal localization of two human lysophosphatidic acid acyltransferases
AU Eberhardt, Christine; Gray, Patrick W.; Tjolker, Larry W.
CS ICOS Corporation, Bothell, WA, 98021, USA
SO Advances in Experimental Medicine and Biology (1999), 469(Eicosanoids and Other Bioactive Lipids in Cancer, Inflammation, and Radiation Injury, 4), 351-356
CODEN: AEMBAP; ISSN: 0065-2598
PB Kluwer Academic/Plenum Publishers
DT Journal; General Review
LA English
AB A review with 18 refs. In this report we describe a pair of human **LPAAT** isoenzymes. These isoenzymes are encoded by distinct genes located on different chromosomes, but share sequence homol., substrate specificity, and intracellular location. The biol. value of maintaining the two closely related **LPAAT** genes in the human genome is not clear. We find that both isoenzymes are widely expressed, although expression levels do diverge significantly in tissues such as the liver, placenta, testes, and pancreas. We also find that, at least in the artificial system of over-expression in COS7 cells, both isoenzymes localize to the ER membrane. Thus, distinct tissue-specific or subcellular compartment-specific roles for the two isoenzymes are not supported by the current exptl. evidence. It does remain possible that induction of expression or subcellular translocation of one or the other isoenzyme may distinguish their functions. A survey of a limited number of acyl CoA substrates indicates that the two isoenzymes display similar substrate specificities, although slight differences are suggested by the data. However, extensive anal. of both isoenzymes with multiple substrates in the same assay system will be required to detect physiol. relevant differences in substrate specificity. LPA and PA are central intermediates in phospholipid biogenesis. Furthermore, they have the capacity to mediate signaling both between and within cells. The importance of these mediators is reflected in the growing body of literature dedicated to unraveling the mechanistic basis for their actions. Until recently, the field has been hampered by a dearth of reagents appropriate for the mol. dissection of the LPA and PA metabolic and signaling pathways in eukaryotes. However, the recent cloning of possible LPA receptors 16 17, 18 will promote further understanding of LPA signaling. Similarly, the recent appearance of **LPAAT** homologs in the EST database has prompted a flurry of reports describing their characterization. These clones will afford opportunity for defining the function of **LPAAT** in eukaryotic phospholipid metabolism
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 33 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:752140 CAPLUS
DN 133:331438
TI Cloning and characterization of human lysophosphatidic acid acyltransferase isoenzymes
IN Leung, David W.; West, James W.; Tompkins, Christopher K.
PA Cell Therapeutics, Inc., USA
SO U.S., 49 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6136964	A	20001024	US 1996-618651	19960319
	WO 2000037655	A1	20000629	WO 1998-US26923	19981218
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9920023	A1	20000712	AU 1999-20023	19981218
	US 6300487	B1	20011009	US 1998-215252	19981218
	EP 1141323	A1	20011010	EP 1998-964774	19981218
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002533085	T2	20021008	JP 2000-589709	19981218
	US 6060263	A	20000509	US 1999-400742	19990921
	US 2002156262	A1	20021024	US 2001-970989	20011005
	US 6670143	B2	20031230		
	US 2004043465	A1	20040304	US 2003-667494	20030923
	US 2004082049	A1	20040429	US 2003-667462	20030923
	US 2004086996	A1	20040506	US 2003-667464	20030923
PRAI	US 1996-618651	A1	19960319		
	US 1998-215252	A3	19981218		
	WO 1998-US26923	A	19981218		
	US 2001-970989	A3	20011005		

AB The present invention provides a cDNA sequence, polypeptide sequence, and transformed cells for producing isolated recombinant mammalian lysophosphatidic acid acyltransferase (**LPAAT**). The present invention provides two novel human polypeptides, and fragments thereof, having **LPAAT** activity. The **LPAAT** isoenzymes discovered herein are novel and have been called hLPAAT with the first one discovered designated hLPAATα and the second one discovered called hLPAATβ. **LPAAT** catalyzes the acylation of lysophosphatidic acid (LPA) to phosphatidic acid (PA) by acylating the sn-2 position of LPA with a fatty acid acyl-chain moiety. **LPAAT** is also known as 1-acyl sn-glycerol-3-phosphate acyltransferase.

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 34 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:592840 CAPLUS
DN 133:160579
TI Protein and cDNA sequences of plant lysophosphatidic acid acetyltransferases (**LPAAT**) homologs
IN Cahoon, Edgar B.; Cahoon, Rebecca E.; Hitz, William D.; Kinney, Anthony J.; Ripp, Kevin G.
PA E. I. Du Pont de Nemours & Co., USA
SO PCT Int. Appl., 93 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000049156	A2	20000824	WO 2000-US4526	20000222
	WO 2000049156	A3	20010215		
	W: AE, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, DM, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1144649	A2	20011017	EP 2000-910279	20000222
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI	US 1999-121119P	P	19990222		
	WO 2000-US4526	W	20000222		

AB This invention provides protein and cDNA sequence homologs of lysophosphatidic acid acetyltransferases (**LPAAT**), which are selected from cDNA libraries of soybean, rice, corn and wheat. The invention also relates to the construction of a chimeric gene encoding all or a portion of the phospholipid biosynthetic enzyme, in sense or antisense orientation, wherein expression of the chimeric gene results in production of altered levels of the phospholipid biosynthetic enzyme in a transformed host cell.

L2 ANSWER 35 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:508172 CAPLUS
DN 133:130787
TI Protein and cDNA sequences of plant lysophosphatidic acid acyltransferases (**LPAAT**) and the uses thereof
IN Davies, Huw Maelor; Hawkins, Deborah; Nelsen, Janet
PA Calgene, Inc., USA
SO U.S., 39 pp., Cont.-in-part of U. S. 5,563,058.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6093568	A	20000725	US 1994-231196	19940421
	US 5563058	A	19961008	US 1994-224625	19940406
	US 5824858	A	19981020	US 1994-254404	19940606
	US 5910630	A	19990608	US 1994-327451	19941021
	CA 2186607	AA	19951019	CA 1995-2186607	19950331
	WO 9527791	A1	19951019	WO 1995-US3997	19950331
	W: CA, JP, US, US, US, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 754232	A1	19970122	EP 1995-916152	19950331
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 09511650	T2	19971125	JP 1995-526379	19950331
	US 5968791	A	19991019	US 1995-458109	19950601
PRAI	US 1994-224625	A2	19940406		
	US 1994-231196	A2	19940421		
	US 1994-254404	A2	19940606		
	US 1994-327451	A	19941021		
	WO 1995-US3997	W	19950331		

AB The invention provides protein and cDNA sequences of plant lysophosphatidic acid acyltransferases (**LPAAT**) that catalyze the production of 1,2-diacylglycerol-3-phosphate from 1-acyl-glycerol-3-phosphate and acy-CoA substrate. The invention relates to purification of **LPAAT**, especially the removal of plant cytoplasmic membranes and the substantial separation away from other plant proteins, and the uses of the **LPAAT** as a tool in gene isolation for biotechnol. applications. In addition, purification of a plant **LPAAT** having preferential activity towards medium-chain acy-CoA substrates is provided. The invention further relates to the uses of **LPAAT** for the modification of the proportion fatty acyl groups at the sn-2 position of the triglyceride mols., especially in the seed oil of plant oilseed crops.

RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 36 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:427655 CAPLUS
DN 133:69797
TI Human homolog of plant lysophosphatidic acid acyl transferase gene LPAAT3 and its uses in therapy and diagnosis
IN Shimizu, Nobuyoshi; Nagamine, Kentaro
PA Eiken Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 24 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000175684	A2	20000627	JP 1998-353690	19981214
PRAI	JP 1998-353690		19981214		

AB A novel human gene homologous to plant lysophosphatidic acid acyl transferase (**LPAAT**), and its recombinant expression, are disclosed. Screening of its agonist/antagonist which could be used for therapy, methods of genetic and mol. based diagnosis, and antibody, are also claimed. A cDNA clone with homol. to plant **LPAAT** gene was isolated from human fetus liver, and its nucleotide sequence was determined The gene was mapped to the long arm of chromosome 21, in the q22.3 region. Anal. of the amino acid sequence of the putative protein coded by this gene (LPAAT3) revealed the presence of 3 membrane spanning regions and an endoplasmic reticulum localization signal (KKXX) at the C-terminal. Recombinant protein was expressed in E. coli.

L2 ANSWER 37 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:307113 CAPLUS
DN 132:331340
TI Cloning, sequence, and expression of human lysophosphatidic acid acyltransferase isoenzymes and their use for drug screening
IN Leung, David W.; West, James W.; Tompkins, Christopher K.
PA Cell Therapeutics, Inc., USA
SO U.S., 50 pp., Division of U.S. Ser. No. 618,651.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6060263	A	20000509	US 1999-400742	19990921
	US 6136964	A	20001024	US 1996-618651	19960319
	AU 9920023	A1	20000712	AU 1999-20023	19981218
	EP 1141323	A1	20011010	EP 1998-964774	19981218
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002533085	T2	20021008	JP 2000-589709	19981218
PRAI	US 1996-618651	A3	19960319		
	WO 1998-US26923	A	19981218		

AB CDNA and encoded protein sequences of human lysophosphatidic acid acyltransferase (**LPAAT**) isoenzymes α and β are disclosed. **LPAAT** is also known as 1-acyl sn-glycerol-3-phosphate acyltransferase. Recombinant **LPAAT** is useful for screening candidate drug compds. that inhibit **LPAAT** activity. Compds. capable of such activity could be useful for augmenting trilineage hematopoiesis after cytoreductive therapy and for anti-inflammatory activity in inhibiting the inflammatory cascade following hypoxia and reoxygenation injury.
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 38 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:229984 CAPLUS
DN 133:40571
TI Glycerol-3-phosphate acyltransferase reactions and edible oil synthesis in oil palm (Elaeis guineensis) tissue
AU Arif, Mohd, A. M.; Harwood, J. L.
CS Palm Oil Research Institute of Malaysia, Kuala Lumpur, 50720, Malay.
SO Journal of Oil Palm Research (1999), (Spec. Issue), 54-63
CODEN: JOPRFO; ISSN: 1511-2780
PB Palm Oil Research Institute of Malaysia
DT Journal
LA English
AB Acyltransferase enzymes are used in three of the four steps of the Kennedy pathway for storage lipid formation. Their specificities, especially those of the first two reactions involving glycerol-3-phosphate acyltransferase (GPAT) and 1-acylglycerol-3-phosphate acyltransferase (**LPAAT**), determine the acyl quality of triacylglycerol (TAG) to a significant extent. The characteristics of the acyltransferases were determined in oil palm (Elaeis guineensis), one of the world's most important agricultural species and the most productive oil crop. Two tissue sources were used. Calli were established and used for in situ manipulation and labeling studies as well as a source of microsomal fractions for enzyme measurements. In addition, acetone powder was prepared from oil palm fruits (14-18 wk after pollination) for enzyme purification High speed particulate fractions isolated from mesocarp acetone powder or calli were incubated with [14C]glycerol 3-phosphate and the formation of Kennedy pathway intermediates followed. Conditions were optimized with regard to substrate concns., etc. and the overall rate manipulated using temperature GPAT was solubilized from particulate fractions of the acetone powder and calli. Optimal solubilization of GPAT activity using CHAPS treatment was achieved at 0.5% (w/v) concentration Details of the purification procedure and properties of the solubilized enzyme are discussed.
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 39 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:206737 CAPLUS
DN 132:345423
TI Erucic acid of rapeseed: scientific problems and prospects
AU Delseny, Michel; Bourgis, Fabienne; Roscoe, Thomas
CS Lab. Physiologie Biologie, CRNS Univ. Perpignan, Perpignan, 66860, Fr.
SO Oleagineux, Corps Gras, Lipides (1999), 6(5), 428-434
CODEN: OCLOEX; ISSN: 1258-8210
PB John Libbey Eurotext
DT Journal; General Review
LA French
AB A review with 30 refs. The principal steps of the pathway leading to the biosynthesis of erucic acid and its incorporation into triacylglycerol are relatively well described. This article describes the recent progress made towards identifying the genes coding for the enzymes of the acyl-CoA elongase complex controlling the synthesis of very long chain fatty acids in rapeseed. The second part of this review concerns the search for genes coding for the acyltransferases that are required for the insertion of the fatty acid into position 2 of the glycerol moiety. Although several genes coding for lysophosphatidic acid acyltransferase (**LPAAT**) have been isolated from different species, in the case of rapeseed only two genes have been identified. One of these genes codes for an enzyme controlling the production of glycerolipids used for the biosynthesis of glycolipids of the plastid membranes.
RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 40 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:6150 CAPLUS
DN 132:307079
TI Characterisation of the G15 gene located between the class II region and the C4 genes in the human MHC
AU Aguado, B.; Campbell, R. D.
CS MRC Immunochemistry Unit, Oxford University, Oxford, OX1 3QU, UK
SO HLA: Genetic Diversity of HLA Functional and Medical Implication, [Proceedings of the International Histocompatibility Workshop and Conference], 12th, Saint-Malo and Paris, France, 1996 (1997), Meeting Date 1996, Volume 2, 224-227. Editor(s): Charron, Dominique. Publisher: EDK, Medical and Scientific International Publisher, Sevres, Fr.
CODEN: 68MRA5
DT Conference
LA English
AB The novel gene G15 encodes a 283 amino acid protein with a predicted mol. weight of about 32 kDa which contains putative transmembrane segments. The G15 gene is a single copy gene, found in cell lines U937, Molt4 and Raji cells. The protein shows homol. with the enzyme **LPAAT** (1-acyl-sn-glycerol-3-phosphate acyltransferase (lysophosphatidic acid acyl transferase) from several bacteria. The authors expressed G15 in insect cells using the baculovirus system and are trying to demonstrate by enzymic assays whether G15 is the human **LPAAT** and to identify the cellular localization of the enzyme.
RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

41 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
70089 CAPLUS
6222
lysophosphatidic acid acyltransferases and their use to modify fatty
omposition
, Huw Maelor; Hawkins, Deborah; Nelson, Janet; Lassner, Michael
e, Inc., USA
71 pp., Cont.-in-part of U. S. Ser. No. 327,451.
USXXAM

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NO.	KIND	DATE	APPLICATION NO.	DATE
8791	A	19991019	US 1995-458109	19950601
3058	A	19961008	US 1994-224625	19940406
3568	A	20000725	US 1994-231196	19940421
4858	A	19981020	US 1994-254404	19940606
0630	A	19990608	US 1994-327451	19941021
7791	A1	19951019	WO 1995-US3997	19950331

CA, JP, US, US, US, US
: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

4-224625	A2	19940406
4-231196	A2	19940421
4-254404	B2	19940606
4-327451	A2	19941021
5-US3997	A2	19950331

nvention relates to plant lysophosphatidic aid acyltransferases
s), means to identify such proteins, amino acid and nucleic acid
ces associated with such protein, and methods to obtain, make and/or
ch plant LPAATs. Purification, especially the removal of plant
nd
ostantial separation away from other plant proteins, and use of the plant
is provided, including the use of the protein as a tool in
solation for biotechnol. applications. In addition, nucleic acid
ces encoding **LPAAT** protein regions are provided, and uses
h sequences for isolation of **LPAAT** genes from plants and
dification of plant triglyceride compns. are described.
THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 42 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:605929 CAPLUS
DN 132:121124
TI Endotoxin effects on synthesis of phosphatidic acid and phosphatidic acid-derived diacylglyceride species
AU Bursten, Stuart L.
CS Cell Therapeutics, Inc., Seattle, WA, USA
SO Endotoxin in Health and Disease (1999), 483-495. Editor(s): Brade, Helmut. Publisher: Marcel Dekker, New York, N. Y.
CODEN: 68EJA9
DT Conference; General Review
LA English
AB A review with 67 refs. This paper discusses phosphatidic acid (PA) signaling and related functions, phosphatidic acid signaling induced by lipid A, structural similarity between lipid A and phosphatidic acid, cloning of lyso-PA acyl-CoA:acyltransferase (**LPAAT**) and transfection into **LPAAT**-deficient E. coli and mammalian cells, effect of **LPAAT** transfection into mammalian cells, **LPAAT** overexpression and IL-1β-induced transcription of TNF-α and IL-6 mRNA, and cytokine release in mammalian cells transfected with **LPAAT** expression vectors.
RE.CNT 67 THERE ARE 67 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 43 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:596275 CAPLUS
DN 131:309216
TI Endophilin I mediates synaptic vesicle formation by transfer of arachidonate to lysophosphatidic acid
AU Schmidt, Anne; Wolde, Michael; Thiele, Chrlstoph; Fest, Werner; Kratzin, Hartmut; Podtelejnikov, Alexandre V.; Witke, Walter; Huttner, Wieland B.; Soling, Hans-Dieter
CS Max-Planck-Institute of Molecular Cell Biology and Genetics, Dresden, D-01307, Germany
SO Nature (London) (1999), 401(6749), 133-141
CODEN: NATUAS; ISSN: 0028-0836
PB Macmillan Magazines
DT Journal
LA English
AB Endophilin I is a presynaptic protein of unknown function that binds to dynamin, a GTPase that is implicated in endocytosis and recycling of synaptic vesicles. Here we show that endophilin I is essential for the formation of synaptic-like microvesicles (SLMVs) from the plasma membrane. Endophilin I exhibits lysophosphatidic acid acyl transferase (**LPAAT**) activity, and endophilin I-mediated SLMV formation requires the transfer of the unsatd. fatty acid arachidonate to lysophosphatidic acid, converting it to phosphatidic acid. A deletion mutant lacking the SH3 domain through which endophilin I interacts with dynamin still exhibits **LPAAT** activity but no longer mediates SLMV formation. These results indicate that endophilin I may induce neg. membrane curvature by converting an inverted-cone-shaped lipid to a cone-shaped lipid in the cytoplasmic leaflet of the bilayer. We propose that, through this action, endophilin I works with dynamin to mediate synaptic vesicle invagination from the plasma membrane and fission.
RE.CNT 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 44 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:462586 CAPLUS
DN 131:283236
TI A plastidial lysophosphatidic acid acyltransferase from oilseed rape
AU Bourgis, Fabienne; Kader, Jean-Claude; Barret, Pierre; Renard, Michel; Robinson, David; Robinson, Colin; Delseny, Michel; Roscoe, Thomas J.
CS Laboratoire Physiologie Cellulaire et Moleculaire, Universite Pierre et Marie Curie, Centre National de la Recherche Scientifique Unite Mixte de Recherche 7632, Paris, 75252, Fr.
SO Plant Physiology (1999), 120(3), 913-921
CODEN: PLPHAY; ISSN: 0032-0889
PB American Society of Plant Physiologists
DT Journal
LA English
AB The biosynthesis of phosphatidic acid, a key intermediate in the biosynthesis of lipids, is controlled by lysophosphatidic acid (LPA, or 1-acyl-glycerol-3-P) acyltransferase (**LPAAT**, EC 2.3.1.51). We have isolated a cDNA encoding a novel **LPAAT** by functional complementation of the Escherichia coli mutant plsC with an immature embryo cDNA library of oilseed rape (Brassica napus). Transformation of the acyltransferase-deficient E. coli strain JC201 with the cDNA sequence BAT2 alleviated the temperature-sensitive phenotype of the plsC mutant and conferred a palmitoyl-CoA-preferring acyltransferase activity to membrane fractions. The BAT2 cDNA encoded a protein of 351 amino acids with a predicted mol. mass of 38 kDa and an isoelec. point of 9.7. Chloroplast-import expts. showed processing of a BAT2 precursor protein to a mature protein of .apprx.32 kDa, which was the localized in the membrane fraction. BAT2 is encoded by a min. of two genes that may be expressed ubiquitously. These data are consistent with the identity of BAT2 as the plastidial enzyme of the prokaryotic glycerol-3-P pathway that uses a palmitoyl-ACP to produce phosphatidic acid with a prokaryotic-type acyl composition The homologies between the deduced protein sequence of BAT2 with prokaryotic and eukaryotic microsomal LAP acytransferases suggest that seed microsomal forms may have evolved from the plastidial enzyme.
RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 45 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:370048 CAPLUS
DN 131:29289
TI Cloning and cDNA sequences for plant lysophosphatidic acid acyltransferases
IN Davies, Huw Maelor; Hawkins, Deborah; Nelsen, Janet; Lassner, Michael
PA USA
SO U.S., 56 pp., Cont.-in-part of U.S. Ser. No. 254,404.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5910630	A	19990608	US 1994-327451	19941021
	US 5563058	A	19961008	US 1994-224625	19940406
	US 6093568	A	20000725	US 1994-231196	19940421
	US 5824858	A	19981020	US 1994-254404	19940606
	CA 2186607	AA	19951019	CA 1995-2186607	19950331
	WO 9527791	A1	19951019	WO 1995-US3997	19950331
	W: CA, JP, US, US, US, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 754232	A1	19970122	EP 1995-916152	19950331
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 09511650	T2	19971125	JP 1995-526379	19950331
	US 5968791	A	19991019	US 1995-458109	19950601
PRAI	US 1994-224625	A2	19940406		
	US 1994-231196	A2	19940421		
	US 1994-254404	A2	19940606		
	US 1994-327451	A	19941021		
	WO 1995-US3997	W	19950331		

AB This invention relates to plant lysophosphatidic acid acyltransferases (LPAATs), means to identify such proteins, amino acid and nucleic acid sequences associated with such proteins, and methods to obtain, make and/or use such plant LPAATs. The cDNA and deduced amino acid sequences are provided for coconut **LPAAT** and for two partial clones of meadowfoam **LPAAT**. Purification, especially the removal of plant membranes and the substantial separation away from other plant proteins, and use of the plant **LPAAT** is provided, including the use of the protein as a tool in gene isolation for biotechnol. applications. In addition, nucleic acid sequences encoding **LPAAT** protein regions are provided, and uses of such sequences for isolation of **LPAAT** genes from plants and for modification of plant triglyceride compns. are considered.

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 46 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:234581 CAPLUS
DN 131:55738
TI Analysis of Amino Acid Motifs Diagnostic for the sn-Glycerol-3-phosphate Acyltransferase Reaction
AU Lewin, Tal M.; Wang, Ping; Coleman, Rosalind A.
CS Department of Nutrition, University of North Carolina, Chapel Hill, NC, 27599-7400, USA
SO Biochemistry (1999), 38(18), 5764-5771
CODEN: BICHAW; ISSN: 0006-2960
PB American Chemical Society
DT Journal
LA English
AB Alignment of amino acid sequences from various acyltransferases [sn-glycerol-3-phosphate acyltransferase (GPAT), lysophosphatidic acid acyltransferase (**LPAAT**), acyl-CoA:dihydroxyacetone-phosphate acyltransferase (DHAPAT), 2-acylglycerophosphatidylethanolamine acyltransferase (LPEAT)] reveals four regions of strong homol., which we have labeled blocks I-IV. The consensus sequence for each conserved region is as follows: block I, [NX]-H-[RQ]-S-X-[LYIM]-D; block II, G-X-[IF]-F-I-[RD]-R; block III, F-[PLI]-E-G-[TG]-R-[SX]-[RX]; and block IV, [VI]-[PX]-[IVL]-[IV]-P-[VI]. We hypothesize that blocks I-IV and, in particular, the invariant amino acids contained within these regions form a catalytically important site in this family of acyltransferases. Using Escherichia coli GPAT (PlsB) as a model acyltransferase, we examined the role of the highly conserved amino acid residues in blocks I-IV in GPAT activity through chemical modification and site-directed mutagenesis expts. We found that the histidine and aspartate in block I, the glycine in block III, and the proline in block IV all play a role in E. coli GPAT catalysis. The phenylalanine and arginine in block II and the glutamate and serine in block III appear to be important in binding the glycerol 3-phosphate substrate. Since blocks I-IV are also found in **LPAAT**, DHAPAT, and LPEAT, we believe that these conserved amino acid motifs are diagnostic for the acyltransferase reaction involving glycerol 3-phosphate, 1-acylglycerol 3-phosphate, and dihydroxyacetone phosphate substrates.
RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 47 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:805905 CAPLUS
DN 130:164621
TI Molecular biology of acyltransferases involved in glycerolipid synthesis
AU Frentzen, M.; Wolter, F. P.
CS Universitat Hamburg, Institut fur Allgemeine Botanik, Hamburg, D-22609, Germany
SO Society for Experimental Biology Seminar Series (1998), 67(Plant Lipid Biosynthesis), 247-272
CODEN: SEBSDI; ISSN: 0309-6831
PB Cambridge University Press
DT Journal; General Review
LA English
AB A review with 54 refs. In the context of glycerolipid biosynthesis, the mol. biol. of plant acyltransferases of plastids and microsomes is examined Major coverage is devoted to sn-glycerol-3-phosphate acyltransferase (GPAT)and sn-1-acylglycerol-3-phosphate acyltransferase (**LPAAT**). Characteristics, sequences, and the mol. basis for substrate specificity are covered for GPAT, while properties and sequences of **LPAAT** are also discussed. Addnl. topics include a discussion of conserved boxes in acyltransferase sequences and the impact of the mol. biol. of acyltransferases on agriculture.
RE.CNT 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 48 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:795117 CAPLUS
DN 130:35034
TI Cloning and cDNA sequences of human lysophosphatidic acid acyltransferase α and β isoforms
IN Leung, David W.; West, James W.; Tompkins, Christopher K.
PA Cell Therapeutics, Inc., USA
SO PCT Int. Appl., 70 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9854303	A1	19981203	WO 1997-US5360	19970527
	W: CA, JP, MX				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 988372	A1	20000329	EP 1997-936924	19970527
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002514087	T2	20020514	JP 1999-500607	19970527
PRAI	WO 1997-US5360	W	19970527		

AB There is disclosed two cDNA sequences and polypeptides having the enzyme lysophosphatidic acid acyltransferase (**LPAAT** α and β) activity isolated from a human brain cDNA library. The 2 isoforms are 283 and 274 amino acids in length. Transfected A549 cells overexpressing **LPAAT** produce >5-fold more tumor necrosis factor and >10-fold more interleukin-6 relative to untransfected A549 cells, suggesting that overexpression **LPAAT** would enhance the cytokine signaling response in cells. Development of compds. that would modulate **LPAAT** activity should therefore be of therapeutic interest in the field of inflammation.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 49 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:795116 CAPLUS
DN 130:34023
TI Genomic and cDNA sequences encoding a human lysophosphatidic acid acyltransferase
IN Tjoelker, Larry A.; Eberhardt, Christine D.
PA Icos Corporation, USA
SO PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9854302	A2	19981203	WO 1998-US10733	19980527
	WO 9854302	A3	19990318		
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9876000	A1	19981230	AU 1998-76000	19980527
PRAI	US 1997-863385		19970527		
	WO 1998-US10733		19980527		

AB Genomic and cDNA and polypeptide sequences of a human lysophosphatidic acid acyltransferase (**LPAAT**) are disclosed. The nucleotide sequence of **LPAAT**-1 obtained from a heart cDNA library comprises an open reading frame encoding a polypeptide of 278 amino acids with a predicted mol. mass of 30.9 kDa. **LPAAT**-1 comprises 4 putative hydrophobic (transmembrane) domains and possibly 4 or 5 hydrophilic (cytosolic or extracellular domains), and exhibits .apprx.23% identity with coconut **LPAAT** and up to .apprx.33% identity with other members of the **LPAAT** family. Methods and materials for production of **LPAAT**-1 and fragments and analogs thereof, production of antibodies, assays for identifying modulators of **LPAAT** and pharmaceutical compns. comprising **LPAAT**, polypeptides or modulators of **LPAAT** are provided. Also provided are methods for detecting **LPAAT** and lysophosphatidic acid.

L2 ANSWER 50 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:684466 CAPLUS
DN 129:299050
TI Coconut lysophosphatidic acid acyltransferase cDNA sequence for the modification of plant triglyceride composition
IN Davies, Huw Maelor; Hawkins, Deborah; Nelsen, Janet
PA Calgene, Inc., USA
SO U.S., 44 pp., Cont.-in-part of U.S. Ser. No. 231,106.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5824858	A	19981020	US 1994-254404	19940606
	US 5563058	A	19961008	US 1994-224625	19940406
	US 6093568	A	20000725	US 1994-231196	19940421
	US 5910630	A	19990608	US 1994-327451	19941021
	CA 2186607	AA	19951019	CA 1995-2186607	19950331
	WO 9527791	A1	19951019	WO 1995-US3997	19950331
	W: CA, JP, US, US, US, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 754232	A1	19970122	EP 1995-916152	19950331
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 09511650	T2	19971125	JP 1995-526379	19950331
	US 5968791	A	19991019	US 1995-458109	19950601
PRAI	US 1994-224625	A2	19940406		
	US 1994-231196	A2	19940421		
	US 1994-254404	A2	19940606		
	US 1994-327451	A	19941021		
	WO 1995-US3997	W	19950331		

AB This invention relates to plant lysophosphatidic acid acyltransferases (LPAATs), means to identify such proteins, amino acid and nucleic acid sequences associated with such protein, and methods to obtain, make and/or use such plant LPAATs. Purification, especially the removal of plant membranes and the substantial separation away from other plant proteins, and use of the coconut **LPAAT** is provided, including the use of the protein as a tool in gene isolation for biotechnol. applications. In addition, nucleic acid sequences encoding coconut **LPAAT** protein regions are provided, and uses of such sequences for isolation of **LPAAT** genes from plants and for modification of plant triglyceride compns. are considered.

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 51 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:628802 CAPLUS
DN 129:328100
TI Biosynthesis of triacylglycerol in the filamentous fungus Mucor circinelloides
AU Jackson, Frances M.; Michaelson, Louise; Fraser, Thomas C. M.; Stobart, A. Keith; Griffiths, Gareth
CS School of Biological Sciences, University of Bristol, Bristol, BS8 1UG, UK
SO Microbiology (Reading, United Kingdom) (1998), 144(9), 2639-2645
CODEN: MROBEO; ISSN: 1350-0872
PB Society for General Microbiology
DT Journal
LA English
AB Lipid metabolism was studied in 2-d-old liquid cultures of Mucor circinelloides grown at 25 °C. Under these conditions, oil accumulated to 0-5 g L-1 with a γ-linolenic acid content (γ18:3) of 60 mg L-1. The major labeled lipids in cultures incubated with [14C]acetate were triacylglycerol (TAG), phosphatidylcholine (PC) and phosphatidylethanolamine (PE). The proportion of label declined in the phospholipids and increased in TAG with time. [C]18:1 and [C]18:2 rapidly appeared in PC and PE and later accumulated in [C]18:3. TAG-synthesizing capacity was greatest in the microsomal membrane fraction, which accumulated high levels of phosphatidic acid in the presence of glycerol 3-phosphate and acyl-CoA substrates at pH 7.0. Further metabolism of phosphatidic acid to diacylglycerol and TAG was achieved by increasing the pH to 8.0. Lysophosphatidic acid:acyl-CoA acyltransferase (**LPAAT**) activity was particularly high and may have accounted for the rapid accumulation of phosphatidic acid in the membranes. The glycerol-3-phosphate:acyl-CoA acyltransferase (GPAAT) and **LPAAT** were non-specific for a range of saturated and unsatd. species of acyl-CoA although the GPAAT showed a marked selectivity for palmitoyl-CoA and the **LPAAT** for oleoyl- and linoleoyl-CoA. γ-Linolenic acid was detected at all three positions of sn-TAG and was particularly enriched at the sn-3 position. The preparation of active in vitro systems (microsomal membranes) capable of the complete biosynthetic pathway for TAG assembly may be valuable in understanding the assembly of oils in future transgenic applications.
RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 52 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:497474 CAPLUS
DN 129:213937
TI Characterization of triacylglycerol biosynthesis in subcellular fractions of an oleaginous fungus, Mortierella ramanniana var. angulispora
AU Pillai, Manoj G.; Certik, Milan; Nakahara, Toro; Kamisaka, Yasushi
CS Tsukuba, Applied Microbiology Department, National Institute of Bioscience and Human Technology, Ibaraki, 305-8566, Japan
SO Biochimica et Biophysica Acta (1998), 1393(1), 128-136
CODEN: BBACAQ; ISSN: 0006-3002
PB Elsevier Science B.V.
DT Journal
LA English
AB Triacylglycerol (TG) biosynthetic enzymes were characterized in subcellular fractions of an oleaginous fungus, Mortierella ramanniana var. angulispora. When the membrane or lipid body fraction of this fungus was incubated with [14C]oleoyl-CoA without adding exogenous acyl acceptors, radioactivity was incorporated predominantly into TG, indicating that diacylglycerol acyltransferase (DGAT) used endogenous diacylglycerol to incorporate [14C]oleoyl-CoA into TG. Adding glycerol 3-phosphate or lysophosphatidic acid increased radiolabeled phosphatidic acid (PA) in the membrane fraction, which reflected the presence of glycerol-3-phosphate acyltransferase (GPAT) and lysophosphatidic acid acyltransferase (**LPAAT**). Label accumulation did not occur in lysophosphatidic acid when glycerol 3-phosphate was added, suggesting that GPAT was rate-limiting in sequential acylation. In the lipid body fraction, adding lysophosphatidic acid similarly increased radiolabeled PA, whereas adding glycerol 3-phosphate caused much lower increase in radiolabeled PA. Quant. assays for GPAT, **LPAAT**, phosphatidic acid phosphatase (PAP), and DGAT essentially confirmed the results obtained from [1-14C]oleoyl-CoA incorporation; **LPAAT** had the highest activity in the membrane and lipid body fractions, GPAT was significantly lower in the lipid body fraction, and DGAT was much higher in the lipid body fraction. GPAT and **LPAAT** in the membrane fraction had a strong preference toward oleoyl-CoA as a substrate over palmitoyl-CoA. Results indicate that TG biosynthetic enzymes had different subcellular distribution with the sequence of enrichment in the lipid body fraction, i.e., GPAT<**LPAAT**.apprxeq.PAP<DGAT. This may reflect a TG biosynthetic process from endoplasmic reticulum membranes to lipid bodies in the fungus.
RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 53 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:424348 CAPLUS
DN 129:91421
TI Cloning and sequence of human lysophosphatidic acid acyltransferase gene and its therapeutic use
IN Aguado, Begona; Campbell, Robert Duncan
PA Medical Research Council, UK; Aguado, Begona; Campbell, Robert Duncan
SO PCT Int. Appl., 88 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9827213	A1	19980625	WO 1997-GB3471	19971218
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9853285	A1	19980715	AU 1998-53285	19971218
PRAI	GB 1996-26208		19961218		
	US 1997-871917		19970610		
	WO 1997-GB3471		19971218		

AB An assay for an inhibitor or activator of inflammation mediated via lysophosphatidic acid acyltransferase (**LPAAT**) which utilizes recombinant human **LPAAT**. The recombinant human **LPAAT** is brought into contact with a candidate inhibitor or activator in the presence of a lysophosphatidic acid substrate and a fatty acid cofactor and the amount of **LPAAT** activity in the presence and absence of the inhibitor or activator is compared. Isolated **LPAAT** polypeptides, polynucleotides encoding **LPAAT** and expression vectors from which the **LPAAT** is expressed are provided. Suitable host cells expressing **LPAAT** include insect cells, CHO, COS, P388, and HepG2 mammalian cells.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 54 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:412129 CAPLUS
DN 129:183679
TI Interaction of lipopolysaccharide with a mammalian lyso-phosphatidate acyltransferase (**LPAAT**) transfected into E. coli, and effect of lisofylline on **LPAAT** transfected into mammalian cells
AU Bursten, Stuart L.
CS Lipid Biology/Analytical Lipid Biochemistry Cell Therapeutics, Inc., Seattle, WA, 98119, USA
SO Progress in Clinical and Biological Research (1998), 397(Endotoxin and Sepsis), 345-356
CODEN: PCBRD2; ISSN: 0361-7742
PB Wiley-Liss, Inc.
DT Journal; General Review
LA English
AB A review, with 15 refs. It appears that **LPAAT** and phosphatidate remodeling play a role in diffuse renal toxicity in sepsis due to induction of cellular phenotype changes associated with phosphatidate induction by lipid A and/or lipopolysaccharide. Two human isoforms of **LPAAT** have been cloned, and apparently address C18 unsatd. acyl chains somewhat selectively. Lisofylline causes functional reduction in **LPAAT** activity in transfected system. This does not yet imply a direct effect of lisofylline on **LPAAT**. **LPAAT** and lipopolysaccharide may interact in the membrane in a not-yet-understood manner.
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 55 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:122221 CAPLUS
DN 128:318607
TI Characterization of a human lysophosphatidic acid acyltransferase that is encoded by a gene located in the class III region of the human major histocompatibility complex
AU Aguado, Begona; Campbell, R. Duncan
CS Medical Research Council Immunochemistry Unit, Department of Biochemistry, Oxford University, Oxford, OX1 3QU, UK
SO Journal of Biological Chemistry (1998), 273(7), 4096-4105
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English
AB Sequence anal. of cDNA clones corresponding to a number of genes located in the class III region of the human major histocompatibility complex (MHC), in the chromosome band 6p21.3, has shown that the G15 gene encodes a 283-amino acid polypeptide with significant homol. over the entire polypeptide with the enzyme lysophosphatidic acid acyltransferase (**LPAAT**) from different yeast, plant, and bacterial species. The amino acid sequence of the MHC-encoded human **LPAAT** (hLPAATα) is 48% identical to the recently described hLPAAT, which is encoded by a gene located on chromosome 9p34.3. **LPAAT** is the enzyme that in lipid metabolism converts lysophosphatidic acid (LPA) into phosphatidic acid (PA). The expression of the hLPAATα polypeptide in the baculovirus system and in mammalian cells has shown that it is an intracellular protein that contains **LPAAT** activity. Cell exts. from insect cells overexpressing hLPAATα were analyzed in different **LPAAT** enzymic assays using, as substrates, different acyl acceptors and acyl donors. These cell exts. were found to contain up to 5-fold more **LPAAT** activity compared with control cell exts., indicating that the hLPAATα specifically converts LPA into PA, incorporating different acyl-CoAs with different affinities. The hLPAATα polypeptide expressed in the mammalian Chinese hamster ovary cell line was found, by confocal immunofluorescence, to be localized in the endoplasmic reticulum. Due to the known role of LPA and PA in intracellular signaling and inflammation, the hLPAATα gene represents a candidate gene for some MHC-associated diseases.
RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 56 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:556770 CAPLUS
DN 127:231194
TI Mammalian lysophosphatidic acid acyltransferases
AU Stamps, Alasdair; Elmore, Moira A.; Hill, Maxine E.; Makda, Ashraff A.; Kelly, Ken; Finnen, Michael J.
CS Yamanouchi Res. Inst., Oxford, UK
SO Research Disclosure (1997), 400(Aug.), P551-P553 (No. 40054)
CODEN: RSDSBB; ISSN: 0374-4353
PB Kenneth Mason Publications Ltd.
DT Journal; Patent
LA English

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI RD 400054		19970810		
PRAI RD 1997-400054		19970810		

AB Three human homologs of Escherichia coli, yeast, and plant, lysophosphatidic acid acyltransferases (**LPAAT** I, II, and III) were identified and sequenced by standard techniques using either RT-PCR of cDNA with primers based on the conserved regions of the known nonmammalian **LPAAT**'s or screening a U937 cell cDNA library with oligonucleotide probes based on the conserved regions of known **LPAAT**'s. **LPAAT**'s also exist as alternatively spliced forms which differ in tissue distribution and specificity.

L2 ANSWER 57 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:535795 CAPLUS
DN 127:231174
TI Human lysophosphatidic acid acyltransferase, cDNA cloning, expression, and localization to chromosome 9q34.3
AU Eberhardt, Christine; Gray, Patrick W.; Tjoelker, Larry W.
CS ICOS Corporation, Bothell, WA, 98021, USA
SO Journal of Biological Chemistry (1997), 272(32), 20299-20305
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English
AB Lysophosphatidic acid (1-acyl-sn-glycero-3-phosphate (LPA)) is a phospholipid with diverse biol. activities. The mediator serves as an intermediate in membrane phospholipid metabolism but is also produced in acute settings by activated platelets. LPA is converted to phosphatidic acid, itself a lipid mediator, by an LPA acyltransferase (**LPAAT**). A human expressed sequence tag was identified by homol. with a coconut **LPAAT** and used to isolate a full-length human cDNA from a heart muscle library. The predicted amino acid sequence bears 33% identity with a Caenorhabditis elegans **LPAAT** homolog and 23-28% identity with plant and prokaryotic LPAATs. Recombinant protein produced in COS 7 cells exhibited **LPAAT** activity with a preference for LPA as the acceptor phosphoglycerol and arachidonyl CoA as the acyl donor. Northern blotting demonstrated that the mRNA is expressed in most human tissues including a panel of brain subregions; expression is highest in liver and pancreas and lowest in placenta. The human **LPAAT** gene is contained on six exons that map to chromosome 9, region q34.3.
RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 58 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:430107 CAPLUS
DN 127:157393
TI Cloning and expression of two human lysophosphatidic acid acyltransferase cDNAs that enhance cytokine-induced signaling responses in cells
AU West, James; Tompkins, Christopher K.; Balantac, Noel; Nudelman, Ed; Meengs, Brent; White, Thayer; Bursten, Stuart; Coleman, Jack; Kumar, Anil; Singer, Jack W.; Leung, David W.
CS Cell Therapeutics, Inc., Seattle, WA, 98119, USA
SO DNA and Cell Biology (1997), 16(6), 691-701
CODEN: DCEBE8; ISSN: 1044-5498
PB Liebert
DT Journal
LA English
AB Lysophosphatidic acid (LPA) and phosphatidic acid (PA) are two phospholipids involved in signal transduction and in lipid biosynthesis in cells. LPA acyltransferase (**LPAAT**), also known as 1-acyl sn-glycerol-3-phosphate acetyltransferase (EC 2.3.1.51), catalyzes the conversion of LPA to PA. In this study, the authors describe the isolation and characterization of two human cDNAs that encode proteins possessing **LPAAT** activities. These two proteins, designated here as **LPAAT**-α and **LPAAT**-β, contain extensive sequence sequence similarities to microbial or plant **LPAAT** sequences. **LPAAT**-α mRNA was detected in all tissues with highest expression in skeletal muscle whereas **LPAAT** -β was expressed predominantly in heart and liver tissues. Expression of these two cDNAs in an Escherichia coli strain with a mutated **LPAAT** gene (plsC) complements its growth defect and shifts the equilibrium of cellular lipid content from LPA to PA and other lipids. Overexpression of these two cDNAs in mammalian cells leads to increased **LPAAT** activity in cell-free exts. using an in vitro assay that measures the conversion of fluorescently labeled LPA to PA. This increase in **LPAAT** activity correlates with enhancement of transcription and synthesis of tumor necrosis factor-α and interleukin-6 from cells upon stimulation with interleukin-1β, suggesting **LPAAT** overexpression may amplify cellular signaling responses from cytokines.
RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 59 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:369520 CAPLUS
DN 127:145748
TI Trierucoylglycerol biosynthesis in transgenic plants of rapeseed (Brassica napus)
AU Weier, Dagmar; Hanke, Christiane; Eickelkamp, Andreas; Luhs, Wilfried; Dettendorfer, Josef; Schaffert, Elena; Mollers, Christian; Friedt, Wolfgang; Wolter, Frank P.; Frentzen, Margit
CS Institut Allgemeine Botanik, Universitat Hamburg, Hamburg, D-22609, Germany
SO Fett/Lipid (1997), 99(5), 160-165
CODEN: FELIFX
PB Wiley-VCH
DT Journal
LA English
AB The erucoyl-CoA specific sn-1-acylglycerol-3-phosphate acyltransferase of Limnanthes douglasii was functionally expressed in developing seeds of differing high-erucic acid rapeseed genotypes, namely resynthesized lines and cultivars. Lipid anal. revealed that seed oil of transgenic plants in contrast to that of control plants contained trierucoylglycerol (trierucin) as well as a mol. species with 2 erucoyl groups and 1 eicosenoyl group. The proportion of trierucin was distinctly higher in the seeds from transgenic resynthesized plants than in those from transgenic cultivars. In pooled seed oil fractions, ≤9% trierucin was determined and the fatty acid composition at the sn-2 position consisted ≥40% erucic acid. Since the pooled seeds were segregating for the presence of the L. douglasii gene, the anal. of single seeds gave even higher levels of ≤13% trierucin.

L2 ANSWER 60 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:305603 CAPLUS
DN 125:25825
TI Perioperative treatment with phosphatidic acid inhibitor (lisofylline) leads to prolonged survival of hearts in the guinea pig to rat xenotransplant model
AU Valdivia, L. A.; Murase, N.; Rao, A. S.; Rice, G.; Singer, J. W.; Sun, H.; Todo, S.; Pan, F.; Subbotin, V.; et al.
CS Pittsburgh Transplantation Institute, University Pittsburgh, Pittsburgh, PA, 15213, USA
SO Transplantation Proceedings (1996), 28(2), 738-739
CODEN: TRPPA8; ISSN: 0041-1345
PB Appleton & Lange
DT Journal
LA English
AB Phosphatidic acids (PAs) are a group of mols. that play an important role in intracellular signaling. Of the four species of PA known, one (PA1-α) is rapidly activated during inflammatory responses through lysophosphatidic acid acyl transferase (**LPAAT**). Lisofylline (LSF) is a potent inhibitor of **LPAAT** and is known to block the formation of PA1-α, thus attenuating or abrogating a broad array of proinflammatory activities. Given its crucial role in suppressing the inflammatory cascade, we have attempted to study the efficacy of LSF in abating or averting hyperacute xenograft rejection in the guinea pig to rat model. The adjuvant affect of steroid therapy was also investigated. The preliminary data suggest that LSF, when used alone or in combination with steroids, prolonged the survival of heart xenograft transplants.

L2 ANSWER 61 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:988116 CAPLUS
DN 124:23312
TI Plant lysophosphatidic acid acyltransferase, especially acylglycerol phosphate acyltransferase, gene sequence, and enzyme use for seed medium-chain triacylglyceride content regulation
IN Davies, Huw Maelor; Hawkins, Deborah; Nelsen, Janet; Lassner, Michael
PA Calgene Inc., USA
SO PCT Int. Appl., 126 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9527791	A1	19951019	WO 1995-US3997	19950331
	W: CA, JP, US, US, US, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5563058	A	19961008	US 1994-224625	19940406
	US 6093568	A	20000725	US 1994-231196	19940421
	US 5824858	A	19981020	US 1994-254404	19940606
	US 5910630	A	19990608	US 1994-327451	19941021
	EP 754232	A1	19970122	EP 1995-916152	19950331
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 09511650	T2	19971125	JP 1995-526379	19950331
	US 5968791	A	19991019	US 1995-458109	19950601
PRAI	US 1994-224625	A2	19940406		
	US 1994-231196	A2	19940421		
	US 1994-254404	A2	19940606		
	US 1995-327451	A2	19941021		
	WO 1995-US3997	W	19950331		

AB This invention relates to plant LPAATs, means to identify such proteins, amino acid and nucleic acid sequences associated with such protein, and methods to obtain, make and/or use such plant LPAATs. Purification, especially the removal of plant membranes and the substantial separation away from other plant proteins, and use of the plant **LPAAT** is provided, including the use of the protein as a tool in gene isolation for biotechnol. applications. In addition, nucleic acid sequences encoding **LPAAT** protein regions are provided, and uses of such sequences for isolation of **LPAAT** genes from plants and for modification of plant triglyceride compns. are described.

L2 ANSWER 62 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:947837 CAPLUS
DN 124:48997
TI Cloning of a coconut endosperm cDNA encoding a 1-acyl-sn-glycerol-3-phosphate acyltransferase that accepts medium-chain-length substrates
AU Knutzon, Deborah S.; Lardizabal, Kathryn D.; Nelsen, Janet S.; Bleibaum, Janice L.; Davies, H. Maelor; Metz, James G.
CS Calgene, Inc., Davis, CA, 95616, USA
SO Plant Physiology (1995), 109(3), 999-1006
CODEN: PLPHAY; ISSN: 0032-0889
PB Dekker
DT Journal
LA English
AB Immature coconut (Cocos nucifera) endosperm contains a 1-acyl-sn-glycerol-3-phosphate acyltransferase (**LPAAT**) activity that shows a preference for medium-chain-length fatty acyl-CoA substrates. Beginning with solubilized membrane prepns., chromatog. sepns. were used to identify a polypeptide with an apparent mol. mass of 29 kDa, whose presence in various column fractions correlates with the acyltransferase activity detected in those same fractions. Amino acid sequence data obtained from several peptides generated from this protein were used to isolate a full-length clone from a coconut endosperm cDNA library. Clone pCGN5503 contains a 1325-bp cDNA insert with an open reading frame encoding a 308-amino acid protein with a calculated mol. mass of 34.8 kDa. Comparison of the deduced amino acid sequence of pCGN5503 to sequences in the data banks revealed significant homol. to other putative **LPAAT** sequences. Expression of the coconut cDNA in Escherichia coli conferred upon those cells a novel **LPAAT** activity whose substrate activity profile matched that of the coconut enzyme.

L2 ANSWER 63 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:750404 CAPLUS
DN 123:165117
TI Lysophosphatidic acid acyltransferase from immature coconut endosperm having medium chain length substrate specificity
AU Davies, H. Maelor; Hawkins, Deborah J.; Nelsen, Janet S.
CS Oils Div., Calgene, Inc., Davis, CA, 95616, USA
SO Phytochemistry (1995), 39(5), 989-96
CODEN: PYTCAS; ISSN: 0031-9422
PB Elsevier
DT Journal
LA English
AB Immature endosperm of coconut (Cocos nucifera) contains a membrane-bound lysophosphatidic acid acyltransferase (**LPAAT**) having medium chain length substrate specificity appropriate to the biosynthesis of coconut oil. Acyl-CoAs containing 10:0, 12:0 and 14:0 acyl groups are the preferred acyl-donor substrates; acyl-ACPs are not utilized. There is slight preference for 12:0-lysophosphatidic acid (LPA) over 18:1-LPA as acceptor substrate. Treatment of the active membrane fraction with 2.25% (weight/volume) CHAPS, at a detergent:protein ratio of 48:1 (weight/weight), in the presence of 1M NaCl solubilized the enzyme in high yield. Solubilization was evidenced by three independent criteria, namely, failure of the activity to sediment at high centrifugal force, behavior of the activity as a globular protein of apparent Mr 44,000 in size-exclusion chromatog., and partial resolution of the activity from many of the membrane proteins on the size-exclusion column. Optimal restoration of **LPAAT** activity after solubilization required the addition of detergent-treated phospholipids, in addition to a lowering of the detergent and NaCl concns.

L2 ANSWER 64 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:318297 CAPLUS
DN 122:102974
TI Phosphatidic acid signaling mediates lung cytokine expression and lung inflammatory injury after hemorrhage in mice
AU Abraham, Edward; Bursten, Stuart; Shenkar, Robert; Allbee, Janet; Tuder, Rubin; Woodson, Paul; Guidot, David M.; Rice, Glenn; Singer, Jack W.; et al.
CS Division of Pulmonary Sciences and Critical Care Medicine, Univ. of Colorado Health Sciences Center, Denver, CO, 80262, USA
SO Journal of Experimental Medicine (1995), 181(2), 569-75
CODEN: JEMEAV; ISSN: 0022-1007
PB Rockefeller University Press
DT Journal
LA English
AB Because phosphatidic acid (PA) pathway signaling may mediate many basic reactions involving cytokine-dependent responses, we investigated the effects of CT1501R, a functional inhibitor of the enzyme lysophosphatidic acid acyltransferase (**LPAAT**) which converts lysophosphatidic acid (Lyso-PA) to PA. We found that CT1501R treatment not only prevented hypoxia-induced PA increases and lyso-PA consumption in human neutrophils, but also prevented neutrophil chemotaxis and adherence in vitro, and lung injury and lung neutrophil accumulation in mice subjected to hemorrhage and resuscitation. In addition, CT1501R treatment prevented increases in mRNA levels and protein production of a variety of proinflammatory cytokines in multiple lung cell populations after blood loss and resuscitation. Our results indicate the fundamental role of PA metabolism in the development of acute injury after blood loss.

L2 ANSWER 65 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:225648 CAPLUS
DN 118:225648
TI Effect of Δ9-tetrahydrocannabinol and merthiolate on acyltransferase activities in guinea pig liver microsomes
AU Badiani, Ketan; Lu, Xiaoli; Arthur, Gilbert
CS Fac. Med., Univ. Manitoba, Winnipeg, MB, R3E 0W3, Can.
SO Lipids (1993), 28(4), 299-303
CODEN: LPDSAP; ISSN: 0024-4201
DT Journal
LA English
AB Δ9-Tetrahydrocannabinol (THC) and merthiolate have been utilized as lysophospholipid acyltransferase inhibitors in metabolic studies. However, their effects on acyltransferases other than lysophosphatidylcholine:acyl-CoA acyltransferase (LPCAT) are not known. We have therefore investigated the effectiveness of lysophosphatidylcholate in inhibiting the acylation of lysophosphatidylcholine, lysophosphatidyleathanolamine, lysophosphatidylserine, lysophosphatidylinositol (LPI) and lysophosphatidic acid (LPA) in guinea pig liver microsomes using oleoyl-CoA and arachidonoyl-CoA as acyl donors. THC inhibited LPCAT and lysophosphatidylethanolamine:acyl-CoA acyltransferase (LPEAT) by 40-50%, but had no effect or only slightly increased the activities of the other acyltransferases when assayed with oleoyl-CoA as the acyl donor. The results obtained with arachidonoyl-CoA were similar to those with oleoyl-CoA, with the exception of a 40% inhibition of lysophosphatidylserine:acyl-CoA acyltransferase (LPSAT) at concns. of 50 μM or higher. At similar concns., merthiolate was more effective than THC in inhibiting the acyltransferases examined Selective effects on the acyltransferases were observed at low concns. of merthiolate (20 μM or less). Thus, LPCAT was most susceptible, followed by LPI acyltransferases, LPSAT, LPEAT and lysophosphatidic acid:acyl-CoA acyltransferases (**LPAAT**). The presence of LPA did not affect the inhibition of LPCAT by merthiolate. Thus the resilience of **LPAAT** to merthiolate inhibition was not due to chelation of the compound by the acidic lysolipid. Thiol reagents including N-ethyl-maleiamide, 5,5'-dithio-bis-nitrobenzoic acid, iodoacetate, β-mercaptoethanol and dithiothreitol had little or no effect on the acyltransferases relative to equimolar concns. of merthiolate. The above results indicate that merthiolate is a much more effective inhibitor of lysophospholipid:acyl-CoA acyltransferases than is THC, and that the selectivity exhibited by merthiolate may be due to direct and specific interaction with the acyltransferases.

L2 ANSWER 66 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1992:607796 CAPLUS
DN 117:207796
TI Substrate specificities of glycerol acylating enzymes from developing embryos of two Cuphea species
AU Bafor, Maureen; Stymne, Sten
CS Biochem. Div., Niger. Inst. Oil Palm Res., Benin City, Nigeria
SO Phytochemistry (1992), 31(9), 2973-6
CODEN: PYTCAS; ISSN: 0031-9422
DT Journal
LA English
AB Embryos of Cuphea procumbens accumulate triacylglycerols with nearly 90 mol% of capric acid (10:0), whereas, C. wrightii embryos have 33% of 10:0 and 54% of lauric acid (12:0) in their triacylglycerols. Acylation rates of different acyl substrates by microsomal glycerol 3-phosphate acyltransferases (GPAT, EC 2.3.1.15) and lysophosphatidic acid acyltransferases (**LPAAT**, EC 2.3.1.51), prepared from developing embryos of these species, were studied. Both enzymes differed in their acyl specificities between the two species. The GPAT and **LPAAT** from C. wrightii showed low activity with 10:0-CoA whereas this acyl-CoA was efficiently used for both acylation reactions by the C. procumbens enzymes. The **LPAAT** from C. wrightii showed relatively higher activities using acyl-CoA with acyl chains longer than 10:0 than the corresponding enzyme from C. procumbens. With increasing chain length of the lysophosphatidic substrate increasingly longer acyl-CoA could serve as acyl donors in the **LPAAT** catalyzed reaction from both species.

L2 ANSWER 67 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:3536 CAPLUS
DN 114:3536
TI Regulation of triacylglycerol biosynthesis in embryos and microsomal preparations from the developing seeds of Cuphea lanceolata
AU Bafor, Maureen; Jonsson, Lisbeth; Stobart, Allan Keith; Stymne, Sten
CS Dep. Plant Physiol., Swed. Univ. Agric. Sci., Uppsala, S-750 07, Swed.
SO Biochemical Journal (1990), 272(1), 31-8
CODEN: BIJOAK; ISSN: 0306-3275
DT Journal
LA English
AB Embryos of C. lanceolata have >80 mol % of decanoic acid (capric acid) in their triacylglycerols, while this fatty acid is virtually absent in phosphatidylcholine (PC). Seed development was complete 25-27 days after pollination, with rapid triacylglycerol deposition occurring between 9 and 24 days. PC amts. increased until day 15 after pollination. Anal. of embryo lipids showed that the diacylglycerol (DAG) pool consisted of mainly long-chain mol. species, with a very small amount of mixed medium-chain/long-chain glycerols. Almost 100% of the fatty acid at position sn-2 in triacylglycerols (TAG) was decanoic acid. When equimolar mixts. of [13C]decanoic and [14C]oleic acid were fed to whole detached embryos, over half of the radioactivity in the DAG resided in [13C]oleate, whereas [14C]decanoic acid accounted for 93% of the label in the TAG. Microsomal prepns. from developing embryos at the mid-stage of TAG accumulation catalyzed the acylation of [13C]glycerol 3-phosphate with either decanoyl-CoA or oleoyl-CoA, resulting in the formation of phosphatidic acid (PtdOH), DAG, and TAG. Very little [14C]glycerol entered PtdCho. In combined incubations, with the equimolar supply of [14C]oleoyl-CoA and [14C]decanoyl-CoA in the presence of glycerol 3-phosphate, the synthesized PC species consisted to 95% of didecanoic and dioleic species. The didecanoyl-glycerols were very selectively utilized over the dioleoylglycerols in the production of TAG. Substantial amts. of [14C]oleate, but not [14C]decanoate, entered PC. The microsomal prepns. of developing embryos were used to assess the acyl specificities of the acyl-CoA:sn-glycerol-3-phosphat acyltransferase (GPAT, EC 2.3.1.15) and the acyl-CoA:sn-1-acyl-glycerol-3-phosphate acyltransferase (**LPAAT**, EC 2.3.1.51) in C. lanceolata embryos. The efficiency of acyl-CoA utilization by the GPAT was in the following order: decanoyl = dodecanoyl > linoleoyl > myristoyl = oleoyl > palmitoyl. Decanoyl-CoA was the only acyl donor to be utilized to any extent by the **LPAAT** when sn-decanoylglycerol 3-phosphate was the acyl acceptor. sn-1-Acylglycerol 3-phosphates with acyl groups shorter than 16 C atoms did not serve as acyl acceptors for long-chain (≥ 16 C atoms) acyl-CoA species. A schematic model for triacylglycerol assembly and PC synthesis in a tissue specialized in the synthesis of high amts. of medium-chain fatty acids is proposed.

L2 ANSWER 68 OF 68 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1990:493810 CAPLUS
DN 113:93810
TI Properties of the glycerol acylating enzymes in microsomal preparations from the developing seeds of safflower (Carthamus tinctorius) and turnip rape (Brassica campestris) and their ability to assemble cocoa-butter type fats
AU Bafor, Maureen; Stobart, Allan Keith; Stymne, Sten
CS Dep. Plant Physiol., Swed. Univ. Agric. Sci., Uppsala, S-750 07, Swed.
SO Journal of the American Oil Chemists' Society (1990), 67(4), 217-25
CODEN: JAOCA7; ISSN: 0003-021X
DT Journal
LA English
AB Microsomal membrane prepns. from the developing seeds of safflower (C. tinctorius, var. Gila) and turnip-ripe (B. campestris, var. Bele) catalyzed the assembly of triacylglycerols (triglycerides) from sn-glycerol 3-phosphate and acyl-CoA. The membrane prepns. were used to assess the acyl specificity properties of the initial acylating enzymes - glycerol 3-phosphate acyltransferase (GPAT) and 1-acyl-glycerol 3-phosphate acyltransferase (lysophosphatidic acid acyltransferase, **LPAAT**) - that are responsible for the fatty acids at positions sn-1 and sn-2 of the sn-triacylglycerol, resp. In spectrophotometric assays it was possible to evaluate, to some extent, how these enzymes will utilize unusual and foreign fatty acids that are not normally found in these particular plant species. The acylating enzymes from both plants used, to varying extents, a comprehensive range of acyl-CoA donor species and some kinetic properties of the substrates involved are presented. The enzymes from safflower, however, were generally the more selective, whereas the turnip-rape was less particular and could utilize a range of acyl substrates. The enzymes from both plants hardly utilized erucate (C22:1), and the significance of this is discussed in terms of mechanisms which have evolved in order to exclude certain, perhaps detrimental, fatty acids from structural membrane lipids and dedicate them to storage lipid assembly. The ability of the microsomal prepns., from the developing seeds of both plants, to synthesize cocoa-butter type fats was investigated. Microsomal membranes were incubated with glycerol 3-phosphate and equimolar amts. of palmitate, oleate, and stearate. Safflower prepns. catalyzed the construction of sn-triacylglycerol with largely palmitate, oleate, and stearate in positions sn-1, -2 and -3, resp. The selectivity for acyl species in rape was less pronounced, however, substantial saturated-unsatd.-saturated oils were still produced. The results are discussed in terms of the acyl selectivity properties of the glycerol acylating enzymes. It is evident that given the correct composition of fatty acids, the plant can produce cocoa-butter or other exotic fats.

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	177.92	178.13

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-47.60	-47.60

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